SOFTWARE USER'S MANUAL

FOR THE

AUTOMATED SURFACE OBSERVING SYSTEM (ASOS)

Software Version 2.6

RSMI005-00019H

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SUBMITTED BY

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FOR

NATIONAL WEATHER SERVICE
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CHAPTER 1
SCOPE

1.1   **IDENTIFICATION**

This Software User's Manual (SUM) provides the procedures for executing the Operational Software Computer Software Configuration Item (CSCI) for the Automated Surface Observing System (ASOS).

1.2   **PURPOSE**

The primary purpose of the ASOS Operational Software CSCI is to implement ASOS system functions including weather sensor data acquisition, weather reporting algorithm processing, dissemination of scheduled METAR reports and non-scheduled SPECI reports, maintenance and self-monitoring, and archiving. The ASOS is a flexible and modular system that is capable of operating at different geographical locations with a variety of weather sensor configurations. It automatically collects, processes, and ensures the quality of weather sensor measurements. It also routinely issues weather reports using predefined formats and communications protocols, and makes available weather observation information for access by a variety of both local and remote users. It provides a password-protected user interface for use by weather observers, air traffic control specialists, electronics technicians, and system managers. Observers may edit automatically generated weather data, edit daily and monthly summary products, and manually generate special weather reports (SPECIs). Air traffic control specialists may perform limited editing functions, and control the manual recording of voice messages to be used with automated voice weather report outputs. Technicians may change the system's configuration and execute system diagnostics and tests. System managers may change and assign passwords and the remote access code and can also access all technician user level functions.

The ASOS Operational Software CSCI is the only CSCI of the ASOS system and, as such, performs all software related ASOS functions. This includes collecting, processing, and reporting weather data. In order to accomplish this, the CSCI has been divided into five major functional areas. These areas are observer interface, sensor processing, technician interface, remote Data Collection Package (DCP) interface, and communications interface.

1.3   **INTRODUCTION**

This SUM provides the steps for executing the software, the expected output, and the corrective measures required when the expected output is not obtained. Figure 1-1, sheets 1 and 2, provides a hierarchy of ASOS screens. This hierarchy uses shaded and unshaded boxes to depict all the ASOS display screens. Each box identifies the name of the screen and which users have access to that screen: UNS=Unsigned User, OBS=Observer, TEC=Technician, ATC=Air Traffic Control Specialist, and SYS=System Manager. Shaded boxes are display screens that contain system data. Non-shaded boxes contain only a menu of user selections in the lower right-hand corner of the screen. The ASOS Maintenance screens are shown in figure 5-1.

NOTE

Any ASOS screen figure with fields that contain a series of X's is provided merely to show the number of characters that could be entered in each field.
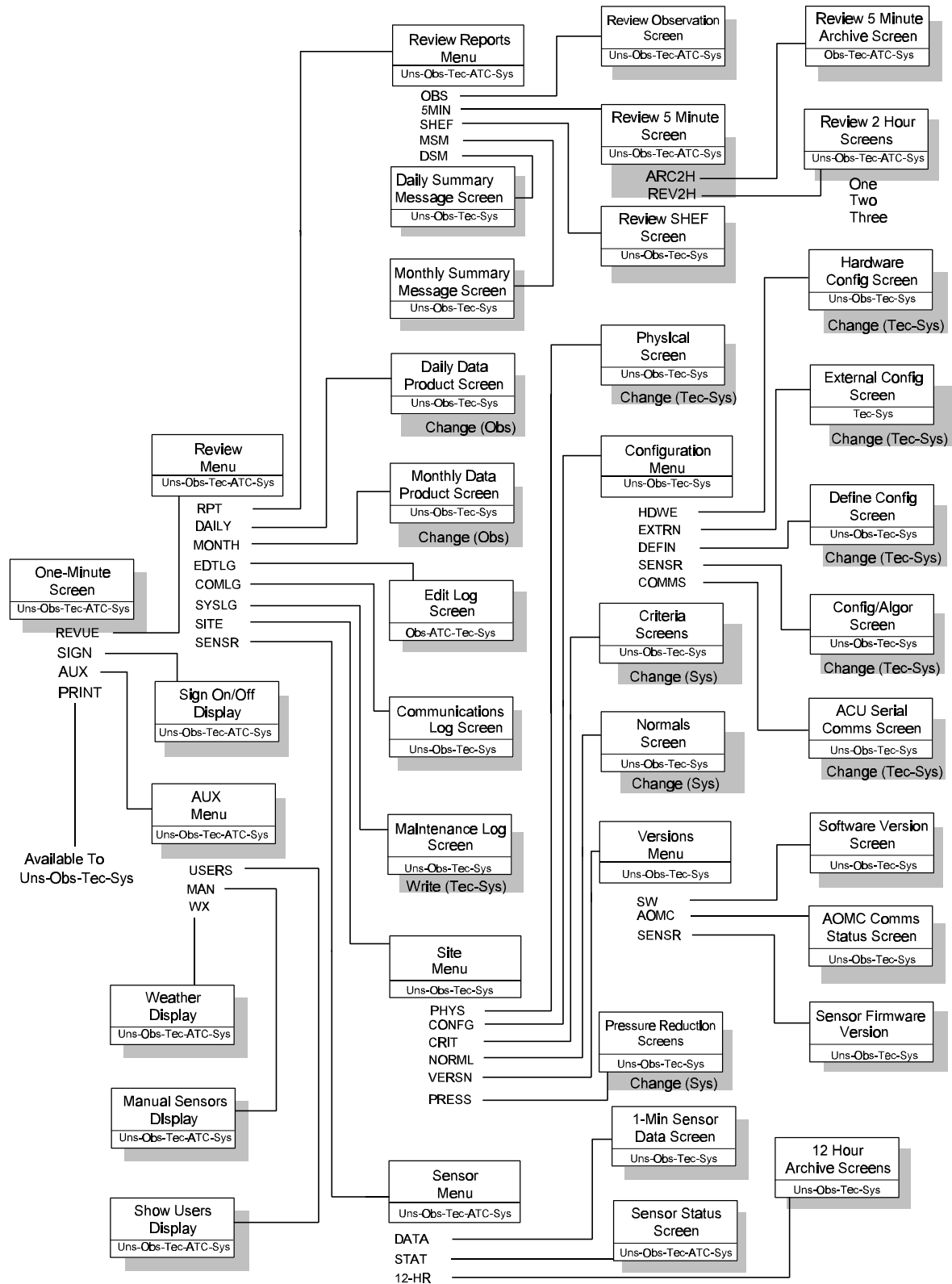
Figure 1-1. Hierarchy of ASOS Screens (Sheet 1 of 2)
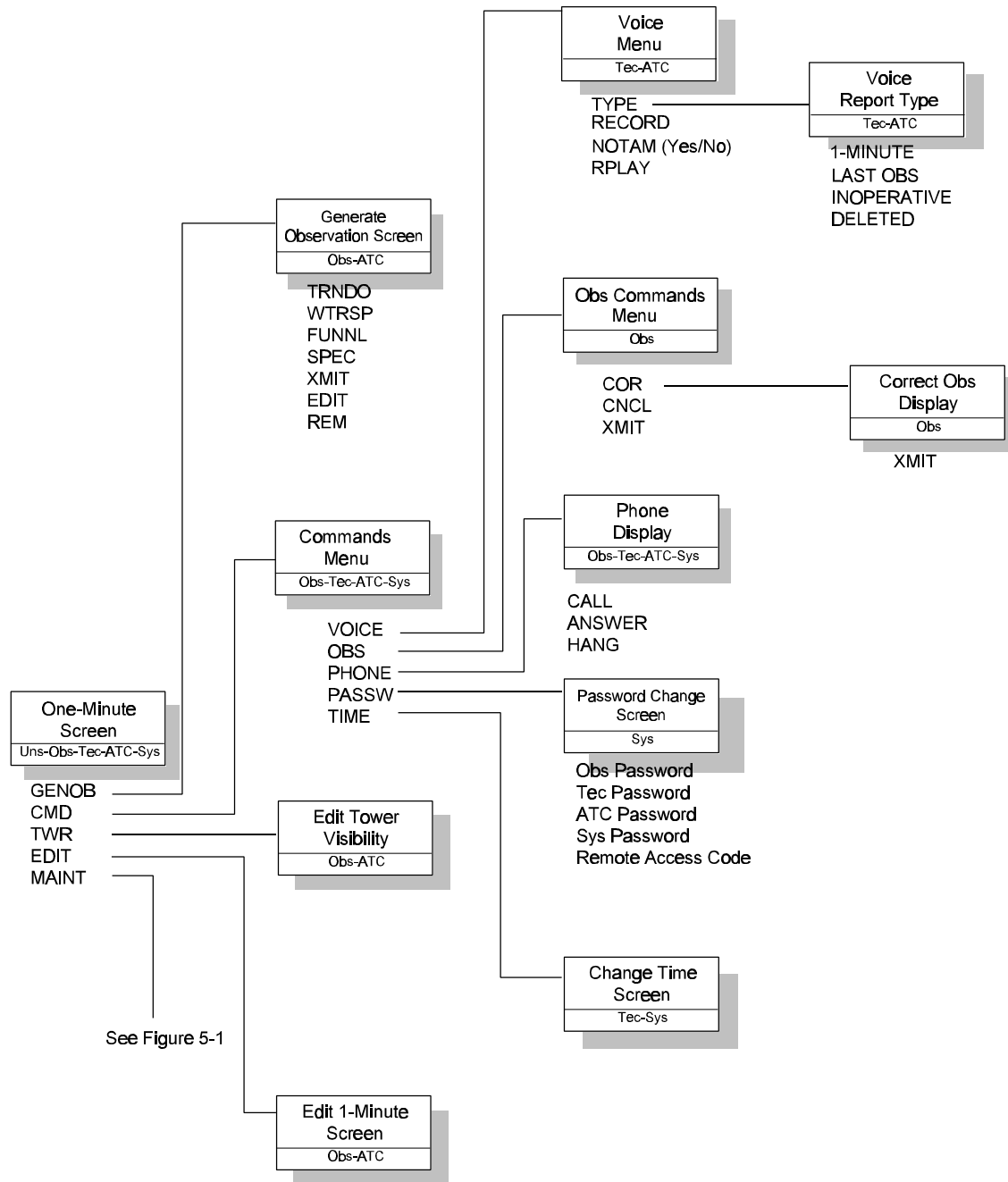
Figure 1-1. Hierarchy of ASOS Screens (Sheet 2 of 2)

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CHAPTER 2
REFERENCED DOCUMENTS

2.1   SPECIFICATIONS

WS-STD-2

Specification for National Weather Service (NWS) Standard Environmental Criteria and Test Procedures

RFP 52-DDNW-7-00054 (1IM), Appendix I

ASOS Statement of Work (SOW)

Software Requirements Specification For The Automated Surface Observing System (ASOS)

SMI Report No. RSMI005-00011

2.2   STANDARDS

DOD-STD-2167/tailored

Defense System Software Development

2.3   TECHNICAL MANUALS

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Automated Surface Observing System (ASOS) Site Technical Manual

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CHAPTER 3
INSTRUCTIONS FOR USE

3.1   SYSTEM OPERATION

3.1.1 **Power On/Off**.

The ASOS is designed to be operational twenty-four hours a day, seven days a week. Because of this continuous availability, power on/off sequences are not expected to be initiated very often. However, the system must be able to shut down in an orderly fashion as a result of a power failure and be capable of re-establishing normal operations upon power restoration without the need for user intervention. The system is designed to boot, initialize, and begin normal operations upon power-up from the primary AC power source.

The ASOS outdoor equipment consists of from one to three remote Data Collection Packages (DCPs) and associated weather sensors. Each DCP, along with the weather sensors configured with it, is connected to primary Alternating Current (AC) power supplied from the airport facility. There is no primary AC power control connection to DCPs from the Acquisition Control Unit (ACU) indoor equipment. At the DCP, a master AC POWER circuit breaker switch is provided that controls the application of primary AC power to both the DCP components and to the connected weather sensors. Primary power control for the sensors is managed from the DCP. Because the system design intends that the outdoor equipment be left running continuously, the master AC POWER switch at each configured DCP will be placed to the ON position at system activation. Subsequently, it will be set to OFF only by maintenance personnel, as required, for periodic preventive maintenance or troubleshooting activities.

The ASOS indoor equipment, comprising the ACU and stand-alone peripheral devices such as the printer and Operator Interface Device (OID) #1, connects to airport building primary AC power. Set-up procedures for the OID may be found in Appendix II of this Software User's Manual. Procedures for connection of OIDs #2 and #3 on modems may be found in the ASOS Site Technical Manual. The system is powered up by turning on the Uninterruptible Power Supply (UPS) which, if supplied, is located in the ACU equipment cabinet. In addition to this, OID #1 and its printer will have their own power switches that may need to be switched to the ON position. These separate power switches may be left in the ON position at all times so that master power control for the indoor equipment can be effected from the ACU equipment cabinet.

Once the system is powered, the ACU and DCP Central Processing Units (CPUs) will automatically boot and initialize their respective hardware components. Following the bootstrap and program load operations (described in paragraph 3.1.2.2 below), each of the ASOS system components (ACU and DCPs) begins executing operational software under control of its respective cyclic executive module.

The ASOS is designed to undergo an orderly shutdown in the event that primary power fails and the UPS system at the ACU and each configured DCP can no longer support system operation. An orderly shutdown is defined as a process in which no critical data are lost and the equipment is protected from damage. For this reason, no special precautions are needed in the event the system needs to be shut down.

Power-off steps for both the ASOS indoor and outdoor equipment are the same as described above, except that the AC POWER switches would be placed to the OFF positions on each configured DCP and at the ACU cabinet. If provided, the UPS must also be set to OFF.

3.1.2 **<u>Initiation</u>**.

The following paragraphs describe the hardware and software setup required to execute the ASOS software.

3.1.2.1 **Pre-Operation Equipment Setup and Procedures.** Once an ASOS has been successfully installed and activated at a particular location, there are no specific equipment set-up or procedures that must be followed to prepare the system for operation following a power down condition. Prior to each period of system operation, users should check the status of consumables for the printer to ensure that automatically printed system data will be available for review and retention.

3.1.2.2 **Bootstrap Procedures and Program Load**. The ASOS system is designed to perform bootstrap and program loading procedures upon the application of external AC primary power. These functions have no user procedures to be followed.

The ACU and each DCP in ASOS may contain optionally configurable dual redundant single board computers to implement extended system reliability and availability. In each application, one of the single board computers is designated the primary CPU while the other is the secondary CPU. Since the operational software is identical for both CPUs, a hardware flag is set to distinguish the primary CPU from the secondary CPU. As long as the primary CPU meets all self-testing and operational requirements it will execute the ACU or DCP operational software.

Should a primary CPU failure be detected in either application (ACU or DCP), the secondary CPU will take over the execution of the operational software, report the primary CPU problem to the maintenance log and alert the system user via the OID screen. CPU failures will be indicated at the Field Replaceable Unit (FRU) level on the Virtual Memory Extension (VME) CARDS diagnostic display page within the Technician Interface. The failure will also be automatically noted in the system maintenance log.

Both the primary and secondary CPUs in the ACU and in each DCP begin initialization simultaneously upon application of primary AC power. When the Direct Current (DC) power supplies come up, each CPU RESET line is activated by a hardware-generated state change. The activation of CPU RESET will invoke a bootstrap routine via a Erasable Programmable Read Only Memory (EPROM)-based vector. Each CPU continues its own initialization to completion.

3.1.2.2.1 *ACU Bootstrap and Initialization Procedures.* In the ACU, upon completion of the CPU self-testing and verification processes, the primary CPU continues the task of initializing the other ACU functions. A system call to the ACU CPU real-time operating system is made so that it can initialize itself internally. Next, the serial input/output (I/O) ports, real-time clock, and interrupt controller are initialized. Finally, operating system calls are issued to create the tasks required to support the initial execution environment and start execution of the highest priority ready task. The ACU initial execution environment consists of tasks that initialize the ACU peripheral equipment including the printer, the configured OIDs, the voice processing subsystem, modems, etc., and a task to establish communications with the DCPs.

When all of the ACU equipment is ready, the initialization execution is complete and control is passed to the ACU executive module. The ACU executive begins making scheduled calls to the ACU operational software units that implement the functions of the Sensor Processing Computer Software Component (CSC), Observer Interface CSC, Technician Interface CSC and Communications Interface CSC. The ACU executive processing cycle repeats every minute with calls made, as required, during the 60 available 1-second processing frames.

A key function of the ACU executive is to order the sending of time synchronization commands once each minute to each configured DCP by the Communications Interface software. These commands are issued to keep

the independent cyclic execution of DCP software in real-time synchronization with the ACU software execution. In addition to this primary function, the once per minute sync commands provide a DCP "pulse-taking" capability. The high-level operational status of a DCP can be determined by the results of the sync command transfer. If the DCP is powered down, there will be no acknowledgment to the sync command transfer, and therefore, a note can be entered into the system maintenance log that the DCP is down. If the DCP is powered up and the DCP CPU has booted, the sync command acknowledgment will indicate to the ACU the DCP's operational software status. During system initialization, this DCP operational software status is used at the ACU to determine whether or not the DCP requires a download of the DCP executable object code.

3.1.2.2.2   *Remote DCP Bootstrap Procedures and Program Load*. In the DCP, initialization is controlled by an EPROM resident bootstrap program. The bootstrap program performs the following steps:

1.   Initialize CPU and all DCP hardware including serial I/O boards and radio equipment, as required.

2.   Provide a status, that the ACU reads, on its once per minute sync command transfer to the DCP indicating that the DCP is powered and software status is indeterminate.

3.   Execute a transfer of the DCP operational software executable object code from DCP non-volatile memory to DCP Random Access Memory (RAM).

4.   Determine through checksum comparison whether transfer yields an executable program in DCP RAM.

5.   Provide a status, that the ACU reads, on its once per minute sync command transfer to the DCP indicating that the DCP has a good executable software load or it does not.

6.   If status indicates that the transfer of the executable object code was successful, pass control to starting address of DCP executable code in DCP RAM, initialize configured sensors and enter normal cyclic processing.

7.   If status indicates that the transfer of the executable object code was not successful, wait for software download from ACU to start. Upon conclusion of the software download, repeat this boot procedure beginning at step 2.

Whenever the ACU downloads the DCP operational software, the DCP stores the downloaded operational software in non-volatile memory so that it is not necessary to download DCP software every time the DCP has a power failure. When the DCP is first activated, the checksum comparison test on the software transfer operation from non-volatile memory to RAM will fail because of the absence of any software in the non-volatile memory storage area.

The DCP software is automatically downloaded by the ACU any time that a DCP boot operation results in the indication that the DCP did not successfully get a good transfer of the operational software from the DCP non-volatile memory. DCP software can also be downloaded upon technician command at the ACU at any time. Whenever a software download occurs, the ACU also automatically transfers the current system configuration file to the configured DCPs.

The system configuration file contains data describing the hardware configuration of the ASOS. It includes designations of configured DCP(s), the weather sensors connected to each configured DCP, and the complement of VME cards installed in the DCP(s) and the ACU. The DCP uses this file to determine which sensors are connected so that sensor-specific polling can be conducted automatically as a function of time. For example,

if a temperature/dewpoint sensor is configured, it must be interrogated six times per minute. In addition, the file tells the DCP to which serial port each configured sensor is connected. The sensor configuration file is also automatically transferred from the ACU to all configured DCPs each time a configuration change is made within the Technician Interface.

When the DCP has successfully transferred the operational software from non-volatile memory to RAM, the DCP executes the initialization of the configured sensors by using the system configuration file data. Following the sensor initialization processes, normal cyclic DCP processing begins.

3.1.2.3 **System Initiation Commands**. After initial system installation, the Station Identifier must be entered on the REVUE-SITE-PHYS page. See figure 3-43. Enter the phone numbers to the AOMC on the REVUE-SITE-CONFG-EXTRN page. See figure 3-46. No other system initiation commands are required. The process of initializing the ASOS is automatically carried out without the need for user intervention upon the re-application of primary AC power to the ACU and the configured DCPs.

3.1.3 **Operating Procedures.**

The ASOS user has several options available for accomplishing system restart after system initiation has occurred. The system design philosophy is as follows: ASOS will automatically initialize; will access current system configuration from a configuration file stored in ACU and DCP non-volatile memory; and will automatically switch in critical redundant components should conditions arise that indicate that a primary component failure has occurred.

Based upon this philosophy, the user is not required to participate in any procedures to accomplish restarts unless the automatic system fails to respond properly, or runs out of options. Provisions are made, through the Technician Interface software, to allow the user to perform specific restart and reconfiguration operations should they be necessary. These operations include hard or soft DCP restart and selection of alternate redundant serial I/O channels. These operations are in addition to the complement of diagnostic test options that are always available to the technician via the OID selection to determine system status or isolate system problems.

DCP restart is an operation which may occur as a result of a power-up of the DCP or because some abnormal condition has been detected that requires a re-boot of the effected DCP. These abnormal conditions can range from a local power failure at the DCP to the need to perform preventive or corrective maintenance on the DCP. The technician at the ACU has the option to command either a hard or soft restart of any configured DCP. A hard restart downloads a new DCP executable software load and also transfers a new copy of the system configuration file. After these data transfers are complete, the DCP will re-boot following the procedures previously described. A soft restart command causes the DCP to reboot without the requirement for a software download as previously described.

During normal operation, the DCP expects the ACU to communicate with it periodically. Once per minute the ACU sends a sync command to each configured DCP. During each ACU 1-minute processing cycle, as a minimum, sensor data requests are made by the ACU to each DCP. The DCP software includes the functionality to identify when the DCP has not been addressed by the ACU for a period of time (during which an ACU communication should be received in a normally operational system). When a DCP detects that it has not received any ACU communications for the timeout interval, it automatically switches to its redundant serial I/O port since the problem may be in the DCP side of the primary I/O channel. After making this automatic switch, if the DCP again detects a timeout on reception of any contact from the ACU, it switches back to the primary serial I/O port and idles waiting for a sync command from the ACU.

On each communication with a DCP, the ACU Communications Interface software determines if the transfer was successful or not, since the DCP acknowledges all communication. If an acknowledgment is received at

the ACU, the DCP must be powered up and executing its operational software. If the acknowledgment is not received, the Communications Interface software tries, up to a maximum of three times, to make the communications transfer.

3.1.4   <u>**Input/Output.**</u>

The ASOS does not have any input/output media, as such, that is necessary to support normal operations. System input, from a user's perspective, is accomplished via data entry at the keyboard of the local Operator Interface Device (OID) or a remote terminal. Remote terminals may be either OID-capable or they may be simple ASCII terminals. OID data entry consists, to a high degree, of the selection of function keys to initiate various system processes. Some processes will prompt for alphanumeric input. Remote ASCII terminal users must use character strings to enter ASOS command functions. These ASCII equivalent commands provide the capability to execute a subset of the OID command functions. ASOS user operations are described in detail in paragraph 3.2.

System output consists of formatted weather products such as the 1-minute observation, hourly METAR and SPECI reports, Standard Hydrometerological Exchange Format (SHEF) messages, as well as Daily and Monthly Summary Messages (DSM/MSM). This output can be transmitted to various external systems and users in accordance with the Interface Control Documents (ICD) provided as appendices to the ASOS Statement of Work (SOW).

User operations are provided at local OIDs that allow the hardcopy printing of any display at those systems having a printer.

In addition, the following information is automatically printed:

- Initials of person signed on/off.

- All METAR and SPECI reports at the end of the day. The calendar day and station name are printed at the top of the page. The reports are then printed in chronological order from 0000 Local Standard Time (LST) to 2359 LST.

- 1-minute observation before and after edit function has been accessed.

- Equipment failures.

- Daily and monthly summary products (after computed).

The user of the ASOS Operational Software CSCI will have no interaction with the real-time operating system services provided in the ACU CPU. There is no "operating system level" state for the ASOS in which a user may request system level services. All user interaction with the system is accomplished by means of the applications software within the Observer Interface and the Technician Interface functional areas.

3.1.5 **Monitoring Procedures.**

When the ASOS operational software is executing in the ACU and the DCPs, it will be monitored continuously by Technician Interface self-test software and special purpose self-test hardware that will determine that the software is cycling and that all functions are operational. The self-test software will be responsible for communicating any abnormal findings to the user by means of the OID screen and an audible alarm, as required. All indications of faults detected by the self-test software will also be entered into the system maintenance and communications logs, as required, for later review by technicians.

3.1.6 **Auxiliary/Off-Line Routines.**

The ASOS does not require any auxiliary/off-line routines. All software functions needed to support the operation of the ASOS are included within the ASOS Operational Software Computer Software Configuration Item (CSCI). The ASOS Operational Software CSCI takes control of the system automatically as a result of the bootstrap sequences executed in the ACU and in each configured DCP.

3.1.7 **Recovery Procedures.**

Recovery procedures available to the ASOS user to restart system operations after an abort or interruption of operation have been described in paragraph 3.1.1.

Each trouble occurrence or program error detected by the self-test software will not necessarily result in any recovery procedures that will be available to the user. Many system problems will be corrected automatically by switching to redundant critical components. A technician will be able to manually force the selection of redundant I/O channels, if required, from the OID by switching the port status variable between ENABLED and DISABLED states. Finally, a reboot of either a DCP or the entire ASOS system may be the only user procedure that may cause the system to recover.

3.1.8 **Enabling/Disabling Audible Alarms.**

Any system user has the capability to enable or disable the audible alarms. The function key F11/F19 on the upper right portion of the keyboard will deactivate the current audible alarm. The F12/F20 keys on the upper right portion of the keyboard provides a message on the screen and disables all alarms present and future.

3.1.9 **ASOS User Level and Functions.**

The Operator Interface functional area provides the man-machine interface between ASOS users, either local or remote, and the ASOS system. A local ASOS user may sign on to the system as one of four specific user levels: observer (OBS), air traffic control specialist (ATC), technician (TEC), or system manager (SYS). A remote ASOS user must supply the remote access code within 30 seconds after being prompted before access to the system is provided. The remote user may then operate as an unsigned user or sign on to the system as either a technician or system manager level user. If no interaction takes place between ASOS and the remote unsigned user for a period of 5-minutes, then the unsigned user will be automatically disconnected. The PRINT function is not available to the signed or unsigned remote users.

Each of the four user levels provides functionality associated with that level and may restrict access to system functions reserved for other user levels. ASOS users that do not sign on to the system are called unsigned users (UNS) and have access to many of the functions described below in table 3-1.

Following the power on sequence described in section 3.1.1, the 1-Minute Screen (figure 3-1, associated help screens figures 3-2 through 3-5) will automatically appear on each configured OID. Displayed on this screen are each weather element, the last transmitted METAR or SPECI report, and the primary function keys. The individual weather elements are updated once each minute. If the user selected a screen other than the   1-Minute Screen and no interaction occurs within 2 minutes (except for technician and system manager password user levels), the OID will automatically return to the 1-Minute Screen. After a user has been signed on for nine hours, or at the time of station closing, then the user is automatically logged off, unless the user is an air traffic control specialist. The air traffic control specialist is exempt from this software feature.

Table 3-1. ASOS Function / User Cross Reference

Function	UNS	OBS	ATC	TEC	SYS
SIGN Function	X	X	X	X	X
Review Capability	X	X	X	X	X
Print Capability (except remote users)	X	X		X	X
Review METAR/SPECI Reports	X	X	X	X	X
Review SHEF Messages	X	X		X	X
Review 5-Minute Observations	X	X	X	X	X
Review Daily Summary Products and Messages	X	X		X	X
Review Monthly Summary Products and Messages	X	X		X	X
Review 1-minute sensor data archived for the last 12 hrs	X	X		X	X
Review 1-minute current sensor data	X	X		X	X
Review Edit Log		X	X	X	X
Review System Maintenance Log	X	X		X	X
Review Communications Log	X	X		X	X
Print the 1-Minute Screen with auxiliary data	X	X		X	X
Activate and deactivate the audible alarms	X	X	X	X	X
View auxiliary parameters	X	X	X	X	X
Examine which sensors/parameters are in manual mode because of user editing of weather data	X	X	X	X	X
Examine the release number and date of the installed operational software	X	X		X	X
Access the system HELP function	X	X	X	X	X
Generate SPECI reports using the current 1-minute observation		X	X		
Generate tornadic SPECI reports		X	X		
Transmit a SPECI Early/Transmit Corrected Reports		X			
Enter a tower visibility		X	X		
Cancel a pending SPECI report		X			
Edit and/or augment automatically generated weather products (1-minute observation)		X	X[*]		

[*] Limited to present weather and remarks fields.

Table 3-1. ASOS Function/User Cross Reference (Continued)

Function	UNS	OBS	ATC	TEC	SYS
Turn sensor report processing on or off.		X	X	X	X
Add/change elements in daily and monthly summary products during the time periods the summaries are available for changing.		X			
Request 2-hour archive of 5-minute observations		X	X	X	X
Select automated voice output for dial-in telephone and radio			X	X	
Manually record a 90-second message, i.e., NOTAM, at the end of the automated voice with the OID handset.			X	X	
Erase manually recorded 90-second voice message, i.e., NOTAM, just recorded.			X	X	
Playback manually recorded 90-second voice message, i.e., NOTAM, over the OID speaker.			X	X	
Change system configuration of sensors/display devices.				X	X
Execute/review results of system diagnostic/tests.				X	X
Change selected physical site constants.				X	X
Change selected hardware configuration constants.				X	X
Change selected external communications configuration constants.				X	X
Change selected sensor configuration constants.				X	X
Change selected ACU serial communications configuration.				X	X
Make entries in the system maintenance log.				X	X
Reset system hardware and software.				X	X
Reset DCPs.				X	X
Assign/change remote access code and passwords.					X

Change selected site parameters:
    Special, local and SHEF alert criteria
    Site pressure data
					X

Process Hot Keys			X		

The air traffic control specialist also has the capability of hot key processing. Five hot keys expedite the generation and transmission of SPECI reports for tornado, thunderstorm, and hail; remarks for virga, and the inclusion of volcanic ash as an augment in the present weather field. The hot keys are only displayed on the 1-Minute Screen and enabled while an air traffic control specialist is logged on. Table 3-2 identifies and describes the five hot keys.

The hot keys act as toggle switches to append or delete the appropriate entries in the present weather and remarks fields. SPECI reports will be automatically generated as required.

Table 3-2. Hot Key SPECI Generation

Hot Key	Weather Type	Present Wx	Example Remark	SPECI
F6	Tornado	+FC	TORNADO B01 TORNADO E02	SPECI
F7	Thunderstorm	TS	TSB05E22	SPECI
F8	Hail	GR	GRB00E18	SPECI
F9	Virga	None	VIRGA	None Required
F10	Volcanic Ash	VA	None	None Required

3.2   **ASOS OPERATIONAL SOFTWARE COMPUTER SOFTWARE CONFIGURATION ITEM (CSCI)**

Table 3-3 is a reference list of functions available to each user and the types of remote user access modes provided by ASOS. (See section 3.3 for additional information about remote access to ASOS.) In addition to the HELP feature and PRINT function, the ASOS Operational Software CSCI is divided into the following eight functions:

The Sign On/Off function (SIGN) governs the operation of the OID and allows user access to system commands within four different password-protected user levels: Observer (OBS); Air Traffic Control Specialist (ATC); Technician (TEC); and System Manager (SYS).

Command function (CMD) allows users signed onto the system to access ASOS system commands including generating corrected reports, voice message generation, assign and change system passwords, and use of the internal OID phone system.

The EDIT function (EDIT) allows the observer level user to edit any of the data on the 1-Minute Screen. Permits air traffic control specialist to edit/augment present weather and remarks only.

The Tower Visibility function (TWR) allows adding and deleting of tower visibility by observer and air traffic control specialist level users.

The Review System Parameters function (REVUE) is used by ASOS users to review various data files in ASOS.

The Generate Observation function (GENOB) allows only the observer and air traffic control specialist level users to manually generate a SPECI report from the current 1-minute data or for tornadic activity.

The Hot Key function allows the air traffic control specialist to expedite augmentation for tornadoes, thunderstorms, hail, virga, and volcanic ash.

The Auxiliary Display Data function (AUX) controls what is displayed on the auxiliary portion of the 1-Minute Screen. Auxiliary data includes current weather data, sensors in manual mode, and currently signed-on users.

The Maintenance function (<u>MAINT</u>) allows the technician and system manager access to an extensive set of ASOS diagnostic tests. This function is discussed in section 5.

Table 3-3. ASOS CSCI Function/User Cross Reference

Function	UNS	OBS	ATC	TEC	SYS
HELP Feature	X	X	X	X	X
PRINT	X	X	-	X	X
SIGN (Sign On/Off Function)	X	X	X	X	X
CMD (Command Function)	-	X	X	X	X
CMD-OBS (Generates Corrected Reports, Cancels or Transmits SPECIs Early)	-	X	-	-	-
-OBS-COR (Corrects Last Transmitted Report)	-	X	-	-	-
-OBS-CNCL (Cancels Pending SPECI Report)	-	X	-	-	-
-OBS-XMIT (Transmits a Pending SPECI Report Before Edit Time Expires)	-	X	-	-	-
CMD-VOICE (Controls Voice Broadcast)	-	-	X	X	-
CMD-VOICE-TYPE (Weather Broadcast Message)	-	-	X	X	-
-VOICE-RCORD (Record a NOTAM)	-	-	X	X	-
-VOICE-NOTAM (Append a NOTAM)	-	-	X	X	-
-VOICE-RPLAY (Replay a Recorded NOTAM)	-	-	X	X	-
CMD-PHONE (Calls Another OID at the Site)	-	X	X	X	X
-PHONE-CALL (Initiate a Call to Another OID)	-	X	X	X	X
-PHONE-ANSWR (Answer Call From Another OID)	-	X	X	X	X
-PHONE-HANG (Leaves the PHONE Function)	-	X	X	X	X
CMD-PASSW (Change Passwords and Remote Access Code)	-	-	-	-	X
CMD-TIME (Synchronizes Time with AOMC)	-	-	-	X	X
EDIT (Edit Data on 1-Minute Screen)	-	X	X	-	-
EDIT-RESET (Toggles Between Automated and Manually Entered Data)	-	X	X	-	-
-REPRO (Reprocess Edited Data to View Changes)	-	X	X	-	-
-REM (Edit Remarks Area)	-	X	X	-	-
-REM-MAN (Edit Manual Remarks)	-	X	X	-	-
-REM-TORN (Edit Tornadic Remarks)	-	X	X	-	-
-REM-SEQN (Controls Automated Remarks)	-	X	X	-	-
TWR (Tower Visibility)	-	X	X	-	-
REVUE (Review Database Information)	X	X	X	X	X
REVUE-RPT (Review Reports, Messages, and Products)	X	X	X	X	X
-RPT-OBS (METAR/SPECI Reports)	X	X	X	X	X
-RPT-OBS-DATE (Select a Date for Specific Reports)	X	X	X	X	X
-RPT-5MIN (5-Minute Observations)	X	X	X	X	X
-RPT-5MIN-TIME (Select a Time for Specific Data)	X	X	X	X	X
-RPT-5MIN-ARC2H (Create an Archive File)	-	X	X	X	X
-RPT-5MIN-REV2H (Review an Archive File)	X	X	X	X	X
-RPT-SHEF (SHEF Messages)	X	X	-	X	X
-RPT-SHEF-DATE (Select Date for Specific Data)	X	X	-	X	X

Table 3-3. ASOS CSCI Function/User Cross Reference (Continued)

Function	UNS	OBS	ATC	TEC	SYS
REVUE-RPT-DSM (Daily Summary Messages)	X	X	-	X	X
-RPT-MSM (Monthly Summary Messages)	X	X	-	X	X
REVUE-DAILY (Daily Summary Products)	X	X	-	X	X
-DAILY-DATE (Select Date of Daily Summary)	X	X	-	X	X
-DAILY-CHANG (Edit/Augment Daily Summary)	-	X	-	-	-
REVUE-MONTH (Monthly Summary Products)	X	X	-	X	X
-MONTH-"month" (Select Previous/Current Month Product)	X	X	-	X	X
-MONTH-CHANG (Edit/Augment Monthly Summary)	-	X	-	-	-
REVUE-SITE (Review Site Specific Configuration Data)	X	X	-	X	X
-SITE-PHYS (Physical Characteristics)	X	X	-	X	X
-SITE-PHYS-CHANG (Change Physical Characteristics)	-	-	-	X	X
-SITE-CONFG (Configuration Data)	X	X	-	X	X
-SITE-CONFG-HDWE (ACU and DCP(s) Hardware)	X	X	-	X	X
-SITE-CONFG-HDWE-CHANG (Change Function)	-	-	-	X	X
-SITE-CONFG-EXTRN (External Communications)	-	-	-	X	X
-SITE-CONFG-EXTRN-CHANG (Change Function)	-	-	-	X	X
-SITE-CONFG-COMMS (ACU Serial Communications)	X	X	-	X	X
-SITE-CONFG-COMMS-SIO (Select Port)	X	X	-	X	X
-SITE-CONFG-COMMS-CHANG (Change Function)	-	-	-	X	X
-SITE-CONFG-COMMS-CHANG-SEQN (Select Port Configuration Parameters)	-	-	-	X	X
-SITE -CONFG-DEFIN (Define Configuration)	X	X	-	X	X
-SITE -CONFG-DEFIN-CHANG (Change Function)	-	-	-	X	X
-SITE -CONFG-SENSR (DCP/ACU Sensor Configurations)	X	X	-	X	X
-SITE-CONFG-SENSR-CHANG (Change Function)	-	-	-	X	X
-SITE-CONFG-SENSR-ALGOR (Displays Sky and Visibility Algorithms in Use at Site)	X	X	-	X	X
-SITE-CONFG-SENSR-ALGOR-CHANG (Change Function)	-	-	-	X	X
-SITE-CRIT (SPECI, SHEF, and Locals Criteria)	X	X	-	X	X
-SITE-CRIT-CHANG (Change Function)	-	-	-	-	X
-SITE-NORML (Site's Climatological Normals)	X	X	-	X	X
-SITE-VERSN (Software Versions and AOMC Upload/Download Information)	X	X	-	X	X
-SITE-VERSN-SW (Displays Software Version)	X	X	-	X	X
-SITE-VERSN-SENSR (Sensor Firmware Version)	X	X	-	X	X
-SITE-VERSN-SENSR-CHANG (Change Function)	-	-	-	X	-
-SITE-VERSN-AOMC (AOMC Upload/Download Information)	X	X	-	X	X
-SITE-VERSN-AOMC-UP-LD (AOMC Upload Request)	-	-	-	X	X
-SITE-VERSN-AOMC-CNCL (Cancel Requested AOMC Upload/Download)	-	-	-	X	X
-SITE-VERSN-AOMC-DN-LD (AOMC Download Request)	-	-	-	X	X
-SITE-PRESS (Pressure Reduction Ratio/Constant)	X	X	-	X	X

Table 3-3. ASOS CSCI Function/User Cross Reference (Continued)

Function	UNS	OBS	ATC	TEC	SYS
REVUE-SITE-PRESS-CHANG (Change Function)	-	-	-	-	X
REVUE-SENSR (Sensor Data/Report Processing Control)	X	X	X	X	X
-SENSR-DATA (View Current Sensor Data)	X	X	-	X	X
-SENSR-DATA-UPDAT (Update Data Being Viewed)	X	X	-	X	X
-SENSR-DATA-MORE (Displays More Ceilometer Data)	X	X	-	X	X
-SENSR-STAT (Selftest, Data Quality, Report Processing Information)	X	X	X	X	X
-SENSR-STAT-PROC (Controls Report Processing)	-	X	X	X	X
-SENSR-12HR (12-Hour Archive/Engineering Data)	X	X	-	X	X
-SENSR-12HR-TIME (Select Data Time to be Viewed)	X	X	-	X	X
REVUE-SYSLG (System Maintenance Information)	X	X	-	X	X
-SYSLG-DATE (Select Date to View Entries)	X	X	-	X	X
-SYSLG-WRITE (Allows Entry of Messages in Log)	-	-	-	X	X
-SYSLG-FILTR (View Only Specific Message Code Entries)	X	-	-	X	X
REVUE-COMLG (Communications Log)	X	X	-	X	X
-COMLG-DATE (Select Date to View Entries)	X	X	-	X	X
-COMLG-FILTR (View Only Specific Message Code Entries)	X	-	-	X	X
REVUE-EDTLG (Edit Log)	-	X	X	X	X
-EDTLG-DATE (Select Date to View Entries)	-	X	X	X	X
GENOB (Generate SPECI Reports)	-	X	X	-	-
-TRNDO (Tornado SPECI)	-	X	X	-	-
-WTRSP (Waterspout SPECI)	-	X	X	-	-
-FUNNL (Funnel Cloud SPECI)	-	X	X	-	-
-SPEC (SPECI Generation)	-	X	X	-	-
-SPEC-EDIT (Use EDIT Via SPECI Generation)	-	X	X	-	-
-SPEC-EDIT-RESET (Toggles Between Automated and Manually Entered Data)	-	X	X	-	-
-SPEC-EDIT-REPRO (Reprocess Edited Data to View Changes)	-	X	X	-	-
-SPEC-EDIT-REM (Edit Remarks Area)	-	X	X	-	-
-SPEC-EDIT-REM-TORN (Edit Tornadic Remarks)	-	X	X	-	-
-SPEC-EDIT-REM-SEQN (Controls Automated Remarks)	-	X	X	-	-
-SPEC-EDIT-REM-MAN (Edit Manual Remarks)	-	X	X	-	-
HOT KEYS (Generates Manual SPECIs with Two Key Strokes)					
F6 - TORNADO (Begins/Ends Tornado)	-	-	X	-	-
F7 - THUNDER (Begins/Ends Thunderstorms)	-	-	X	-	-
F8 - HAIL (Begins/Ends Hail Events)	-	-	X	-	-
F9 - VIRGA (Enters "VIRGA" in Remarks)	-	-	X	-	-
F10 - VOLCANIC ASH ("VA" encoded in Present Weather Field)	-	-	X	-	-
AUX (Auxiliary Function)	X	X	X	X	X
AUX-WX (Additional Weather Parameters Displayed on 1-Minute Screen)	X	X	X	X	X
-MAN (Sensors in Manual Mode Displayed on 1-Minute Screen)	X	X	X	X	X

Table 3-3. ASOS CSCI Function/User Cross Reference (Continued)

Function	UNS	OBS	ATC	TEC	SYS
AUX-USERS (OID Users Displayed on 1-Minute Screen)	X	X	X	X	X
-OFF (Removes Auxiliary Information From 1-Minute Screen)**z**	X	X	X	X	X
MAINT (Maintenance Function - See Section 5.)	-	-	-	X	X
REMOTE ACCESS (See Section 3.3)					
ASCII TERMINAL MODE	X	-	-	-	-
MONOCHROME MONITOR MODE	X	-	-	X	X
REMOTE ACCESS MODE	X	-	-	X	X
DIRECT COMMAND MODE	X	-	-	-	-

Figure 3-1 shows the ASOS 1-Minute Screen with function key templates for each of the four password user levels and the unsigned user.

Figures 3-2 through 3-5 show the help screens for each user level at the 1-Minute Screen.

PLEASE NOTE: When an observer signs on the system, the availability of data from the precipitation identifier sensor, the freezing rain sensor, and the lightning detection sensor/network will be displayed on the lower-left corner of the 1-Minute Screen. Messages displayed will include: PRECIP IDENT DATA AVAILABLE or PRECIP IDENT DATA N/A; ZR DATA AVAILABLE or ZR DATA N/A; and TSTM DATA AVAILABLE or TSTM DATA N/A. When a change in the data availability occurs, the appropriate message will update to indicate the change and then flash for a period of about 1 minute. When the observer signs off ASOS, the messages are removed from the 1-Minute Screen. Likewise, when an air traffic control specialist signs on the system, only the lightning data availability message will appear (i.e., TSTM DATA AVAILABLE or TSTM DATA N/A). When a change in the data availability occurs, this message will also update to indicate the change and then flash for a period of about 1 minute. When the air traffic control specialist signs off ASOS, this message will be removed from the 1-Minute Screen.

```
 19:20:27 01/22/98 2020Z                                                    STERLING #4
     +)))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))),
 *  SKY        = OVC075                                                                *
 *                                                                                     *
 *  VISIBILITY = 10SM                     TEMP/DEWPT  = 4.4  /-1.1  C  40 /30  F*
 *  RVR        = RVRNO                     WIND DIR/SPD = 160/07                         *
 *  PRESENT WX =                           ALTIMETER   = 30.31                          *
 *                                                                                     *
 *  REMARKS    = RMK AO2                                                                *
 *                                                                                     *
 *                                                                                     *
 *METAR KST2 221956Z AUTO 16005KT 10SM OVC080 04/M01 A3030 RMK AO2 SLP262              *
 *T00441011                                                                            *
 *                                                                                     *
 *                                                                                     *
 *                                                                                     *
 *                                                                                     *
  *                                                           +)))))0)))))0)))))1
 *                                                           *PRINT*      *      *
  *                                                          /)))))3)))))3)))))1
 *                                                           *REVUE*      *      *
  *                                                          /)))))3)))))3)))))1
 *                                                           *SIGN *      * AUX *
   .))))))))))))))))))))))))))))))))))))))))))))))))))))))))2)))))2)))))2)))))-
                                                              User Level: Unsigned



    Data Availability Messages Displayed:               +)))))0)))))0)))))),
  PRECIP IDENT DATA AVAILABLE or PRECIP IDENT DATA N/A   *PRINT*GENOB*  CMD*
   ZR DATA AVAILABLE              or ZR DATA N/A          /)))))3)))))3)))))1
  TSTM DATA AVAILABLE             or TSTM DATA N/A        *REVUE* TWR *      *
                                                          /)))))3)))))3)))))1
                                                          *SIGN *EDIT *  AUX*
                                                          .)))))2)))))2)))))-
                                                      User Level: Observer (OBS)



                                                          +)))))0)))))0)))))),
                                                          *PRINT*      *  CMD*
                                                          /)))))3)))))3)))))1
                                                          *REVUE*      *MAINT*
                                                          /)))))3)))))3)))))1
                                                          *SIGN *      *  AUX*
                                                          .)))))2)))))2)))))-
                                      User Level: System Manager (SYS) and Technician (TEC)



    Data Availability Message Displayed:               +)))))0)))))0)))))),
  TSTM DATA AVAILABLE or TSTM DATA N/A                 *      *GENOB*  CMD*
                                                        /)))))3)))))3)))))1
                                                        *REVUE* TWR *      *
                                                        /)))))3)))))3)))))1
                                                        *SIGN *EDIT *  AUX*
                                                        .)))))2)))))2)))))-
                                      User Level: Air Traffic Control Specialist (ATC)
```

Figure 3-1. 1-Minute Screen and Primary Function Key Template Format

```
19:20:47 01/22/98 2020Z                                          STERLING #4
    +))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))),
*                                                                              *
*PRINT - PRINT THE CURRENT SCREEN ON THE ASOS PRINTER                          *
*                                                                              *
*                                                                              *
*                                                                              *
*                                                                              *
*                                                                              *
*REVUE - ALLOWS THE OPERATOR TO REVIEW AND PRINT VARIOUS DATA FILES            *
*                                                                              *
*                                                                              *
*                                                                              *
*                                                                              *
*                                                                              *
*SIGN  - ALLOWS THE OPERATOR TO SIGN ON THE SYSTEM AS AN OBSERVER, AIR TRAFFIC *
*CONTROLLER, TECHNICIAN OR SYSTEM MANAGER LEVEL USER; AND TO SIGN OFF          *
*                                                                              *
*                                                                              *
*AUX   - ALLOWS THE OPERATOR TO SELECT AUXILIARY WEATHER PARAMETERS, USER'S    *
*SIGN-ON LIST, OR MANUAL SENSORS FOR VIEWING                                   *
*               PRESS HELP OR KEYPAD 0 TO EXIT HELP                            *
*                                                                              *
    .)))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))-
```

Figure 3-2. System Help Screen for 1-Minute Screen
User Level: Unsigned (UNS)

```
19:22:41 01/22/98 2022Z                                          STERLING #4
    +))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))),
*                                                                              *
*PRINT - PRINT THE CURRENT SCREEN ON THE ASOS PRINTER                          *
*                                                                              *
*GENOB - USED TO MANUALLY GENERATE AN UNSCHEDULED OBSERVATION FROM THE         *
*CURRENT ONE-MINUTE OBSERVATION                                                *
*CMD   - ALLOWS THE OPERATOR TO SELECT ADDITIONAL COMMANDS                     *
*                                                                              *
*REVUE - ALLOWS THE OPERATOR TO REVIEW AND PRINT VARIOUS DATA FILES            *
*                                                                              *
*TWR   - ALLOWS THE OPERATOR TO DISPLAY & EDIT THE TOWER VISIBILITY FIELD      *
*                                                                              *
*                                                                              *
*                                                                              *
*SIGN  - ALLOWS THE OPERATOR TO SIGN ON THE SYSTEM AS AN OBSERVER, AIR TRAFFIC *
*CONTROLLER, TECHNICIAN OR SYSTEM MANAGER LEVEL USER; AND TO SIGN OFF          *
*EDIT  - ALLOWS EDITING OF USER SPECIFIC PARAMETERS ON THE ONE-MINUTE SCREEN   *
*BY MANUALLY ENTERING DATA                                                     *
*AUX   - ALLOWS THE OPERATOR TO SELECT AUXILIARY WEATHER PARAMETERS, USER'S    *
*SIGN-ON LIST, OR MANUAL SENSORS FOR VIEWING                                   *
*               PRESS HELP OR KEYPAD 0 TO EXIT HELP                            *
*                                                                              *
    .)))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))-
```

Figure 3-3. System Help Screen for 1-Minute Screen
User Level: Observer (OBS)

```
19:25:22 01/22/98 2025Z                                             STERLING #4
    +)))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))),
*                                                                               *
*PRINT - PRINT THE CURRENT SCREEN ON THE ASOS PRINTER                           *
*                                                                               *
*                                                                               *
*                                                                               *
*CMD   - ALLOWS THE OPERATOR TO SELECT ADDITIONAL COMMANDS                       *
*                                                                               *
*REVUE - ALLOWS THE OPERATOR TO REVIEW AND PRINT VARIOUS DATA FILES              *
*                                                                               *
*                                                                               *
*                                                                               *
*MAINT - SELECTS MAINTENANCE KEYPAD USED TO CALL DIAGNOSTIC ROUTINES             *
*                                                                               *
*SIGN  - ALLOWS THE OPERATOR TO SIGN ON THE SYSTEM AS AN OBSERVER, AIR TRAFFIC *
*CONTROLLER, TECHNICIAN OR SYSTEM MANAGER LEVEL USER; AND TO SIGN OFF            *
*                                                                               *
*                                                                               *
*AUX   - ALLOWS THE OPERATOR TO SELECT AUXILIARY WEATHER PARAMETERS, USER'S      *
*SIGN-ON LIST, OR MANUAL SENSORS FOR VIEWING                                     *
*                     PRESS HELP OR KEYPAD 0 TO EXIT HELP                        *
*                                                                               *
    .)))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))-
```
Figure 3-4. System Help Screen for 1-Minute Screen
User Level: System Manager (SYS) and Technician (TEC)

```
19:24:01 01/22/98 2024Z                                             STERLING #4
    +)))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))),
*                                                                               *
*                                                                               *
*                                                                               *
*                                                                               *
*GENOB - USED TO MANUALLY GENERATE AN UNSCHEDULED OBSERVATION FROM THE           *
*CURRENT ONE-MINUTE OBSERVATION                                                  *
*CMD   - ALLOWS THE OPERATOR TO SELECT ADDITIONAL COMMANDS                       *
*                                                                               *
*REVUE - ALLOWS THE OPERATOR TO REVIEW AND PRINT VARIOUS DATA FILES              *
*                                                                               *
*TWR   - ALLOWS THE OPERATOR TO DISPLAY & EDIT THE TOWER VISIBILITY FIELD        *
*                                                                               *
*                                                                               *
*                                                                               *
*SIGN  - ALLOWS THE OPERATOR TO SIGN ON THE SYSTEM AS AN OBSERVER, AIR TRAFFIC *
*CONTROLLER, TECHNICIAN OR SYSTEM MANAGER LEVEL USER; AND TO SIGN OFF            *
*EDIT  - ALLOWS EDITING OF USER SPECIFIC PARAMETERS ON THE ONE-MINUTE SCREEN     *
*BY MANUALLY ENTERING DATA                                                       *
*AUX   - ALLOWS THE OPERATOR TO SELECT AUXILIARY WEATHER PARAMETERS, USER'S      *
*SIGN-ON LIST, OR MANUAL SENSORS FOR VIEWING                                     *
*                     PRESS HELP OR KEYPAD 0 TO EXIT HELP                        *
*                                                                               *
    .)))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))-
```
Figure 3-5. System Help Screen for 1-Minute Screen
User Level: Air Traffic Control Specialist (ATC)

3.2.1 <u>**SIGN Function.**</u>

The Sign-On/Sign-Off (SIGN) function governs the operation of the OID and provides password-protected access and sign off to the four ASOS password user levels (i.e., OBS, TEC, SYS, and ATC). All ASOS users have access and use of the SIGN function from the 1-Minute Screen. Figure 3-6 shows the SIGN function display on the lower-half of the 1-Minute Screen.

3.2.1.1 **Initialization.** The 1-Minute Screen must be displayed to access the SIGN function.

3.2.1.2 **Execution Options.** When a user selects the SIGN function key from the 1-Minute Screen, the user first enters two or three initials followed by the password for the desired user level. This operation allows the user to have access to system commands and functions specified for that password user level**.**

To sign off the system, the user selects the SIGN function key, enters two or three initials, and when prompted for a password, presses the RETURN key. The user is now signed off the system, and may no longer access the system commands and functions reserved for that user level.

3.2.1.3 **User Inputs.** Local user inputs to the SIGN function are:

    1.   Two or three initials entered in response to prompt on OID screen.

    2.   Password entry that exactly matches either the observer (OBS), air traffic control specialist (ATC), technician (TEC), or system manager (SYS) password stored in ACU non-volatile memory to sign on the system, or RETURN to sign off the system.

> NOTE: Only one observer and only one air traffic control specialist may be signed on to ASOS at any given time.

        Remote user inputs to the SIGN function are:

    1.   Remote access code entry that exactly matches the remote access code stored in ACU non-volatile memory.

    2.   Two or three initials entered in response to prompt on OID screen.

    3.   Password entry that exactly matches either the technician (TEC) or system manager (SYS) password stored in ACU non-volatile memory or RETURN to sign off the system. Remote users can <u>not</u> sign on as an air traffic control specialist (ATC) or observer (OBS).

3.2.1.4 **System Inputs.** System inputs for the SIGN function include:

    1.   Passwords for observer, air traffic control specialist, technician, and system manager levels of ASOS users from ACU non-volatile memory.

    2.   Access code for remote users from ACU non-volatile memory.

    3.   System user data including user initials and user level for each configured user device (OIDs and remote terminals) associated with signed-on users.

```
 19:29:15 01/22/98 2029Z                                                        STERLING #4
     +))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))),
 *   SKY        = OVC075                                                                    *
 *                                                                                          *
 *   VISIBILITY = 10SM                       TEMP/DEWPT   = 4.4  /-1.7  C  40 /29  F*
 *   RVR        = RVRNO                       WIND DIR/SPD = 180/05                          *
 *   PRESENT WX =                             ALTIMETER    = 30.32                           *
 *                                                                                          *
 *   REMARKS    = RMK AO2                                                                    *
 *                                                                                          *
 *                                                                                          *
 *METAR KST2 221956Z AUTO 16005KT 10SM OVC080 04/M01 A3030 RMK AO2 SLP262        *
 *T00441011                                                                                 *
 *                                                                                          *
 **  WARNING:   USER HAS ACCESSED A U.S. GOVERNMENT COMPUTER *                           *
 **             SYSTEM.  UNAUTHORIZED USE CAN BE PUNISHED BY *                           *
 **             FINES OR IMPRISONMENT                        *                           *
  *                                                          +)))))0)))))0)))))1
 *         ENTER YOUR INITIALS      RNP                      *PRINT*     *     *
  *                                                          /)))))3)))))3)))))1
 *         ENTER YOUR PASSWORD      *******                  *REVUE*     *     *
  *         (OR PRESS RETURN TO SIGN OFF)                    /)))))3)))))3)))))1
 *                                                           *SIGN *     * AUX *
    .))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))2)))))2)))))2)))))-
```
Figure 3-6. SIGN Display Format

3.2.1.5 **Execution.** The procedures for executing the SIGN function are:

To sign on system:

1.   Select the SIGN function key from the 1-Minute Screen. Observe prompt on OID screen for entry of initials.

2.   Enter two or three initials (characters A-Z) at prompt. Press the RETURN key. The entry of less than two initials will result in the display of an error message along with an audible alarm. The entry of more than three letters will result in the excess input not being accepted and an audible alarm.

3.   Enter password for appropriate user level at prompt. Press the RETURN key. If the password entered does not exactly match one of the system input passwords, then an error message will be displayed along with an audible alarm and the SIGN function must be re-selected.

4.   Successful sign on will cause display of other signed on users (if any) to appear on the OID screen. Display shows user's OID location (i.e., OID1, OID2, OID3, OID4, OID5, OID6, OID7, OID8), user's initials, and the user's password level (e.g., OID1 JVF (OBS)).

5.   When an observer signs on the system, the availability of data from the precipitation identifier sensor, the freezing rain sensor, and the lightning detection sensor/network will be displayed on the lower-left corner of the 1-Minute Screen. Messages displayed will include: PRECIP IDENT DATA AVAILABLE or PRECIP IDENT DATA N/A; ZR DATA AVAILABLE or ZR DATA N/A; and TSTM DATA AVAILABLE or TSTM DATA N/A. When a change in the data availability occurs, the appropriate message will update to indicate the change and then flash for a period of about 1 minute.

6.   When an air traffic control specialist signs on the system, only the lightning data availability message will appear (i.e., TSTM DATA AVAILABLE or TSTM DATA N/A). When a change

in the data availability occurs, the message will update to indicate the change and then flash for a period of about 1 minute.

7.   Successful sign-on will automatically sign-off any previous user of the OID.

To sign off system:

1.   Select the SIGN function key from the 1-Minute Screen. Observe prompt on OID screen for entry of initials.

2.   Enter two or three initials at prompt. (<u>Note</u>: Initials entered to sign off do not have to be the same initials entered to sign on.) The entry of less than two initials will result in the display of an error message. The entry of more than three letters will result in input not being accepted and an audible alarm.

3.   Press the RETURN key at the prompt for the entry of password. This will then exit the SIGN function.

3.2.1.6 **Termination.** The SIGN function is self-terminating. Successful sign on and sign off operations return the user to the 1-Minute Screen.

Sign on and sign off operations that cause an error message response will terminate the function without making any change to the system user data and return the user to the 1-Minute Screen.

3.2.1.7 **Restart.** From the 1-Minute Screen select the SIGN function key to restart the SIGN function.

3.2.1.8 **Outputs.** Outputs of the SIGN function are:

1.   A printout of the date, time and initials of the user when the SIGN function is used to sign on or off the system.

2.   The observation archive file is appended with an entry showing the date, time, and initials of observers and air traffic control specialists when the SIGN function is used to sign on or off the system.

3.   The system maintenance log file is appended with an entry showing the date, time, and initials of technicians and system managers when the SIGN function is used to sign on or off the system.

4.   When an observer signs on the system, the availability of data from the precipitation identifier sensor, the freezing rain sensor, and lightning detection sensor/network will be displayed on the lower-left corner of the 1-Minute Screen. Messages displayed will include: PRECIP IDENT DATA AVAILABLE or PRECIP IDENT DATA N/A; ZR DATA AVAILABLE or ZR DATA N/A; and TSTM DATA AVAILABLE or TSTM DATA N/A. When a change in the data availability occurs, the appropriate message will update to indicate the change and then flash for a period of about 1 minute. All messages are removed from the 1-Minute Screen when the observer signs off ASOS.

5.   When an air traffic control specialist signs on the system, only the lightning data availability message will appear (i.e., TSTM DATA AVAILABLE or TSTM DATA N/A). When a

change in the data availability occurs, the message will update to indicate the change and then flash for a period of about 1 minute. The message is removed from the 1-Minute Screen at sign off.

3.2.1.9 **Interrelationship.** This function allows users to have access to those system commands and functions that are available to their user password level. Not all system functions require the local or remote user to be signed on. A remote user is given three attempts to enter the designated remote access code within 30 seconds. The remote access user has the option to sign onto the system as a technician or system manager to access additional functions. A user may sign off at any time by pressing the RETURN key in place of entering a password. An ASOS user (except the air traffic control specialist) will automatically be signed off after nine hours or at the time of station closing. Automatic sign off will only occur if the 1-Minute Screen is displayed.

3.2.2 **COMMAND Function.**

The Command (CMD) function allows users signed onto the system to access specific ASOS system commands. The unsigned user does not have access to the CMD function. Depending on the user level, some of the following system commands will be accessible:

User Level	CMD Function
OBS	Transmit a pending SPECI report before the edit time expires.
OBS	Cancel a pending SPECI report before the edit time expires.
OBS	Correct the last transmitted METAR/SPECI report.
ATC, TEC	Selection of automated voice weather broadcast output.
ATC, TEC	Manual voice broadcast output (i.e., NOTAM) control.
SYS	Remote access code and password editing.
OBS, ATC, TEC, SYS	Initiate or receive an ASOS phone call.
TEC, ATC	Synchronize the ASOS site's system time with the ASOS Operations and Monitoring Center (AOMC).

Each of the command functions has user access requirements. Figure 3-7 shows the CMD display screen and the function key template associated with each user level. The CMD help screen may be accessed by pressing the HELP key on the function keypad or the zero key (0) on the auxiliary keypad.

3.2.2.1 **Initialization.** The 1-Minute Screen must be displayed on the OID to access the CMD function.

3.2.2.2 **Execution Options.** - After selecting the CMD function key from the 1-Minute Screen, the user is presented with the following CMD functions that may be selected:

OBS   -   Allows the user to transmit or cancel a pending SPECI report before the edit time expires, and correct the last transmitted METAR/SPECI report. OBS is only available to ASOS users signed on at the observer level.   See figure 3-8 for the CMD-OBS screen.

    COR -   Allows the user to make corrections to the last transmitted METAR/SPECI report. Changes are accomplished using a free text editor and are not incorporated into further processing. See figure 3-9 for the CMD-OBS-COR screen.

        ABORT -   Returns the user to the 1-Minute Screen without changing the last transmitted report.

        XMIT -   Transmits the corrected report/returns the observer to the 1-Minute Screen.

BACK -   Returns the user to the previous screen/keypad without changing the last
              transmitted report.

CNCL -   Allows user to cancel a pending SPECI.
              The question: DO YOU WANT TO CANCEL (Y OR N)? is displayed. Enter "Y"
              and RETURN to cancel the pending SPECI. (NOTE: The canceled SPECI will
              automatically regenerate itself if the parameter causing the generation of the SPECI is
              not changed.) Enter "N" and RETURN and the SPECI will be transmitted when the
              edit time expires. The remaining edit time is displayed at the top of the screen. See
              figure 3-10.

XMIT -   Allows user to transmits a pending SPECI before the edit time expires.
              The question: DO YOU WANT TO TRANSMIT (Y OR N)? is displayed. Enter "Y"
              and RETURN to transmit the pending SPECI immediately. Enter "N" and RETURN and
              the SPECI will be transmitted when the edit time expires. The remaining edit time is
              displayed at the top of the screen. See figure 3-11.

EXIT -   Returns the user to the 1-Minute Screen.

BACK -   Returns the user to the previous screen/keypad.

VOICE -   The VOICE function provides access to the selection of the automated voice weather broadcast
           output type (last observation (METAR/SPECI report) or one-minute data) and to the control
           functions needed to generate a manual voice broadcast message (i.e., NOTAM) and append it to
           the current voice weather broadcast. Each of the functions below are available to air traffic
           control specialist and technician level users. See figure 3-12 for the CMD-VOICE screen.

TYPE -   Sequences through the available automated voice weather broadcast outputs. The options
              are: One Minute; Last Observation; Inoperative; and Deleted.

RCORD -   Enables voice processor recording function. Only the designated OID may be used to
              manually record broadcast output (i.e., NOTAM). See figures 3-13 and 3-14.

NOTAM -   Toggles the append NOTAM status for inclusion/removal from the ASOS ground-to-air
              radio and telephone recorded broadcast. The options are "Yes" and "No." See figure
              3-15.

RPLAY -   Replays current recorded manual voice broadcast output (i.e., NOTAM) on the OID
              speaker. Only the designated OID may be used to replay the manual voice broadcast.

ABORT -   Returns the user to the 1-Minute Screen without changing the current weather automated
              voice broadcast output.

EXIT -   Returns the user to the 1-Minute Screen after the changes have been saved.

BACK -   Returns the user to the previous screen/keypad after the changes have been saved.

```
19:45:19 01/22/98 2045Z                                        STERLING #4
   +))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))),
*  SKY        = OVC080                                                  *
*                                                                       *
*  VISIBILITY = 10SM               TEMP/DEWPT  = 4.4  /-1.7  C  40 /29  F*
*  RVR        = RVRNO              WIND DIR/SPD = 150/07                 *
*  PRESENT WX =                    ALTIMETER    = 30.32                 *
*                                                                       *
*  REMARKS    = RMK AO2                                                  *
*                                                                       *
*                                                                       *
*METAR KST2 221956Z AUTO 16005KT 10SM OVC080 04/M01 A3030 RMK AO2 SLP262 *
*T00441011                                                              *
*                                                                       *
*                                                                       *
*                                                                       *
*                                                   COMMANDS            *
 *                                           +)))))0)))))0)))))1
*                                           *      *     *     *        *
 *                                           /)))))3)))))3)))))1
*                                           *PHONE*      *     *        *
 *                                           /)))))3)))))3)))))1
*                                           *EXIT *PASSW*TIME *
   .)))))))))))))))))))))))))))))))))))))))))))))))))))))))2)))))2)))))2)))))-
                        User Level: System Manager (SYS)


                                                   COMMANDS
                                           +)))))0)))))0))))),
                                           * OBS *     *     *
                                           /)))))3)))))3)))))1
                                           *PHONE*     *     *
                                           /)))))3)))))3)))))1
                                           *EXIT *     *     *
                                           .)))))2)))))2)))))-
                          User Level: Observer (OBS)


                                                   COMMANDS
                                           +)))))0)))))0))))),
                                           *     *VOICE*     *
                                           /)))))3)))))3)))))1
                                           *PHONE*     *     *
                                           /)))))3)))))3)))))1
                                           *EXIT *     *TIME *
                                           .)))))2)))))2)))))-
                          User Level: Technician (TEC)


                                                   COMMANDS
                                           +)))))0)))))0))))),
                                           *     *VOICE*     *
                                           /)))))3)))))3)))))1
                                           *PHONE*     *     *
                                           /)))))3)))))3)))))1
                                           *EXIT *     *     *
                                           .)))))2)))))2)))))-
                    User Level: Air Traffic Control Specialist (ATC)
```

Figure 3-7. CMD Screen and Function Key Templates

```
     +))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))),
*  SKY        = OVC075                                                              *
*                                                                                   *
*  VISIBILITY = 10SM                       TEMP/DEWPT   = 4.4  /-1.7  C  40 /29  F*
*  RVR        = RVRNO                      WIND DIR/SPD = 160/05                     *
*  PRESENT WX =                            ALTIMETER    = 30.32                      *
*                                                                                   *
*  REMARKS    = RMK AO2                                                             *
*                                                                                   *
*                                                                                   *
*METAR KST2 221956Z AUTO 16005KT 10SM OVC080 04/M01 A3030 RMK AO2 SLP262            *
*T00441011                                                                          *
*                                                                                   *
*                                                                                   *
*                                                                                   *
*                                                            COMMANDS-OBS   *
 *                                                          +)))))0)))))0)))))1
*                                                          *     * COR *     *
 *                                                          /)))))3)))))3)))))1
*                                                          *CNCL *XMIT *     *
 *                                                          /)))))3)))))3)))))1
*                                                          *EXIT *BACK *     *
    .))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))2)))))2)))))2)))))-
```

Figure 3-8. CMD - OBS Screen (Observer User Level Only)

```
 12:06:44 01/23/98 1306Z                                              STERLING #4
     +))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))),
*  SKY        = OVC006                                                              *
*                                                                                   *
** VISIBILITY = 1SM     TWR = 2SM         TEMP/DEWPT   = 3.3  /3.3   C  38 /38  F*
*  RVR        = RVRNO                      WIND DIR/SPD = 030/06                     *
*  PRESENT WX = RA BR                      ALTIMETER    = 30.07                      *
*                                                                                   *
*  REMARKS    = RMK AO2 TWR VIS 2 P0002 RVRNO                                       *
*                                                                                   *
*                                                                                   *
*SPECI KST2 231305Z COR 04005KT 1SM RA BR OVC006 03/03 A3008 RMK AO2 TWR VIS 2 *
*P0002 RVRNO $                                                                      *
*                                                                                   *
*                                                                                   *
*                                                                                   *
*                                                            COMMANDS-OBS   *
 *                                                          +)))))0)))))0)))))1
*                                                          *     *     *     *
 *                                                          /)))))3)))))3)))))1
*                                                          *     *    *ABORT*
 *                                                          /)))))3)))))3)))))1
*                                                          *XMIT *BACK *     *
    .))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))2)))))2)))))2)))))-
```

Figure 3-9. CMD - OBS - COR Screen (Observer User Level Only)

```
12:00:57 01/23/98 1300Z          4 MIN 23 SEC LEFT TO EDIT          STERLING #4
    +))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))),
*  SKY       = OVC006                                                          *
*                                                                              *
** VISIBILITY = 1SM    TWR = 2SM       TEMP/DEWPT  = 3.3 /3.3  C  38 /38  F*
*  RVR       = RVRNO                   WIND DIR/SPD = 040/06                    *
*  PRESENT WX = +RA BR                 ALTIMETER   = 30.07                     *
*                                                                              *
*  REMARKS    = RMK AO2 TWR VIS 2 PRESFR P0001 RVRNO                           *
*                                                                              *
*                                                                              *
*SPECI KST2 231300Z 04006KT 1SM +RA BR OVC006 03/03 A3007 RMK AO2 TWR VIS 2    *
*PRESFR P0001 RVRNO                                                            *
*                                                                              *
*                                                                              *
*                                                                              *
*                                                          COMMANDS-OBS     *
 *                                                         +)))))0)))))0)))))1
*                                                         *       * COR *     *
 *                                                         /)))))3)))))3)))))1
*                                                         *CNCL *XMIT *     *
 *      DO YOU WANT TO CANCEL (Y OR N)?    Y               /)))))3)))))3)))))1
*                                                         *EXIT *BACK *     *
    .))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))2)))))2)))))2)))))-
```

Figure 3-10. CMD - OBS - CNCL Screen (Observer User Level Only)

```
12:02:06 01/23/98 1302Z          4 MIN 14 SEC LEFT TO EDIT          STERLING #4
    +))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))),
*  SKY       = OVC006                                                          *
*                                                                              *
** VISIBILITY = 1SM    TWR = 2SM       TEMP/DEWPT  = 3.3 /3.3  C  38 /38  F*
*  RVR       = RVRNO                   WIND DIR/SPD = 030/06                    *
*  PRESENT WX = +RA BR                 ALTIMETER   = 30.07                     *
*                                                                              *
*  REMARKS    = RMK AO2 TWR VIS 2 PRESFR P0001 RVRNO                           *
*                                                                              *
*                                                                              *
*SPECI KST2 231301Z 03006KT 1SM +RA BR OVC006 03/03 A3007 RMK AO2 TWR VIS 2    *
*PRESFR P0001 RVRNO $                                                          *
*                                                                              *
*                                                                              *
*                                                                              *
*                                                          COMMANDS-OBS     *
 *                                                         +)))))0)))))0)))))1
*                                                         *       * COR *     *
 *      DO YOU WANT TO TRANSMIT (Y OR N)?                  /)))))3)))))3)))))1
*                                                         *CNCL *XMIT *     *
 *                                                         /)))))3)))))3)))))1
*                                                         *EXIT *BACK *     *
    .))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))2)))))2)))))2)))))-
```

Figure 3-11. CMD - OBS - XMIT Screen (Observer User Level Only)

```
 11:43:09 01/23/98 1243Z                                                STERLING #4
    +))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))),
*  SKY       = OVC006                                                             *
*                                                                                 *
*  VISIBILITY = 5SM                        TEMP/DEWPT   = 3.3  /3.3   C  38 /38  F*
*  RVR        = RVRNO                       WIND DIR/SPD = 040/04                  *
*  PRESENT WX = RA BR                       ALTIMETER    = 30.09                   *
*                                                                                 *
*  REMARKS    = RMK AO2 P0009                                                     *
*                                                                                 *
*                                                                                 *
*METAR KST2 231156Z AUTO 04004KT 4SM +RA BR OVC006 03/03 A3012 RMK AO2 SLP200  *
*P0012 60030 70047 T00330033 10033 20006 56031                                    *
*                                                                                 *
*                                                                                 *
*                                                                                 *
*                                                                   VOICE        *
 *                                                                +)))))0)))))0)))))1
*          CURRENT AIRPORT OUTPUT = ONE MINUTE                    *TYPE *RCORD*    *
 *                                                                /)))))3)))))3)))))1
*          APPEND NOTAM = NO                                      *NOTAM*RPLAY*ABORT*
 *                                                                /)))))3)))))3)))))1
*                                                                *EXIT *BACK *    *
    .)))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))2)))))2)))))2)))))-
```

Figure 3-12. CMD - VOICE Screen (Air Traffic Control Specialist and Technician User Levels)

```
 11:46:14 01/23/98 1246Z                                                STERLING #4
    +))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))),
*  SKY       = OVC006                                                             *
*                                                                                 *
*  VISIBILITY = 5SM                        TEMP/DEWPT   = 3.3  /3.3   C  38 /38  F*
*  RVR        = RVRNO                       WIND DIR/SPD = 050/03                  *
*  PRESENT WX = RA BR                       ALTIMETER    = 30.09                   *
*                                                                                 *
*  REMARKS    = RMK AO2 P0010                                                     *
*                                                                                 *
*                                                                                 *
*METAR KST2 231156Z AUTO 04004KT 4SM +RA BR OVC006 03/03 A3012 RMK AO2 SLP200  *
*P0012 60030 70047 T00330033 10033 20006 56031                                    *
*                                                                                 *
*                                                                                 *
*                                                                                 *
*                                                                  RECORD        *
 *                                                                +)))))0)))))0)))))1
*          PRESS ANY KEY TO BEGIN MESSAGE                        *     *RCORD*    *
 *           PRESS ANY KEY TO END MESSAGE                         /)))))3)))))3)))))1
*                                                                *     *     *    *
 *                                                                /)))))3)))))3)))))1
*                                                                *     *BACK *    *
    .)))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))2)))))2)))))2)))))-
```

Figure 3-13. CMD - VOICE - RCORD Screen
(Air Traffic Control Specialist and Technician User Levels Only)

```
11:46:52 01/23/98 1246Z                                          STERLING #4
   +))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))),
*  SKY        = OVC006                                                          *
*                                                                               *
*  VISIBILITY = 5SM                       TEMP/DEWPT  = 3.3  /3.3   C  38 /38  F*
*  RVR        = RVRNO                      WIND DIR/SPD = 050/03                  *
*  PRESENT WX = RA BR                      ALTIMETER   = 30.09                    *
*                                                                               *
*  REMARKS    = RMK AO2 P0010                                                   *
*                                                                               *
*                                                                               *
*METAR KST2 231156Z AUTO 04004KT 4SM +RA BR OVC006 03/03 A3012 RMK AO2 SLP200   *
*P0012 60030 70047 T00330033 10033 20006 56031                                  *
*                                                                               *
*                                                                               *
*                                                                               *
*                                                               RECORD          *
 *                                                             +)))))0))))) 0)))))1
*         PRESS ANY KEY TO BEGIN MESSAGE                       *    *RCORD*       *
 *          PRESS ANY KEY TO END MESSAGE                       /)))))3)))))3)))))1
*         MESSAGE TIME REMAINING IS 55 SECONDS                *     *      *      *
 *                                                             /)))))3)))))3)))))1
*                                                             *    *BACK *       *
   .)))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))2)))))2)))))2)))))-
```
Figure 3-14. CMD - VOICE - RCORD Screen
(Air Traffic Control Specialist and Technician User Levels Only)

```
11:43:09 01/23/98 1243Z                                          STERLING #4
   +))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))),
*  SKY        = OVC006                                                          *
*                                                                               *
*  VISIBILITY = 5SM                       TEMP/DEWPT  = 3.3  /3.3   C  38 /38  F*
*  RVR        = RVRNO                      WIND DIR/SPD = 040/04                  *
*  PRESENT WX = RA BR                      ALTIMETER   = 30.09                    *
*                                                                               *
*  REMARKS    = RMK AO2 P0009                                                   *
*                                                                               *
*                                                                               *
*METAR KST2 231156Z AUTO 04004KT 4SM +RA BR OVC006 03/03 A3012 RMK AO2 SLP200   *
*P0012 60030 70047 T00330033 10033 20006 56031                                  *
*                                                                               *
*                                                                               *
*                                                                               *
*                                                               VOICE           *
 *                                                             +)))))0)))))0)))))1
*         CURRENT AIRPORT OUTPUT = ONE MINUTE                  *TYPE *RCORD*      *
 *                                                             /)))))3)))))3)))))1
*         APPEND NOTAM = NO                                    *NOTAM*RPLAY*ABORT*
 *                                                             /)))))3)))))3)))))1
*                                                             *EXIT *BACK *      *
   .)))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))2)))))2)))))2)))))-
```
Figure 3-15. CMD - VOICE Screen (Use NOTAM Function as Toggle)
(Air Traffic Control Specialist and Technician User Levels)

PHONE -   The PHONE function provides the means to contact other OID users. This function is available to all users signed-on to the system. See figure 3-16 for the CMD-PHONE screen.

      PRINT -   Prints the current screen on the ASOS printer.

      HANG -   HANG is not operational until CALL or ANSWR function has been selected.

      ANSWR -   Enables the user to respond to a call from another OID.

      EXIT -   Returns the user to the 1-Minute Screen.

      BACK -   Returns the user to the previous screen/keypad.

      CALL -   Allows the user to initiate contact with any of the other OID users. See figure 3-17 for the CMD-PHONE-CALL screen and associated help screen.

            OID-1 thru-   Allows the user to initiate a call with a particular OID.
            OID-8

            HANG -   Returns the user to the CMD-PHONE Screen.

            EXIT, BACK, and ABORT will terminate the call after the dialog has begun.

TIME -   If the ASOS system's time is off by more than 15 seconds, the TIME function allows the user to correct (i.e., synchronize) the system's time to the ASOS Operations and Monitoring Center's (AOMC) time. This function is available only to users signed on at the technician and system manager levels. The question "ARE YOU SURE (Y OR N)?" is asked. There is no menu change.

PASSW -   This function is available only to ASOS users signed on at the system manager level. It allows the system manager to assign or change the system's user level passwords and remote access code. See figure 3-18 for the CMD-PASSW screen and entry prompt display.

```
19:32:08 01/22/98 2032Z                                                STERLING #4
    +)))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))),
*       DATA RECEIVED FROM                        STATUS:  HUNG UP              *
*                                                                              *
*                                                                              *
*                                                                              *
*                                                                              *
*                                                                              *
*                                                                              *
*                                                                              *
*------------------------------------------------------------------------------*
*                                                                              *
*                                                                              *
*                                                                              *
*                                                                              *
*                                                                              *
*                                                                              *
*                                                                              *
*------------------------------------------------------------------------------*
 *                                                              +)))))0)))))0)))))1
 *                                                              *PRINT*    *HANG *
 *                                                              /)))))3)))))3)))))1
 *                                                              *     *    *ANSWR*
 *                                                              /)))))3)))))3)))))1
 *                                                              *EXIT *BACK *CALL *
    .)))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))2)))))2)))))2)))))-
```

Figure 3-16. CMD - PHONE Screen
(Observer, Air Traffic Control Specialist, System Manager, and Technician User Levels)

```
19:32:26 01/22/98 2032Z                                                STERLING #4
    +)))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))),
*       DATA RECEIVED FROM                        STATUS:  HUNG UP              *
*                                                                              *
*                                                                              *
*                                                                              *
*                                                                              *
*                                                                              *
*                                                                              *
*                                                                              *
*------------------------------------------------------------------------------*
*                                                                              *
*                                                                              *
*                                                                              *
*                                                                              *
*                                                                              *
*                                                                              *
*                                                                              *
*------------------------------------------------------------------------------*
 *                                                              +)))))0)))))0)))))1
 *        OID1 DG  (OBS)        OID5                            *OID-7*OID-8*HANG *
 *         OID2 JVF (ATC)        OID6                           /)))))3)))))3)))))1
 *        OID3 RNP (TEC)        OID7                            *OID-4*OID-5*OID-6*
 *         OID4                  OID8                           /)))))3)))))3)))))1
 *                                                              *OID-1*OID-2*OID-3*
    .)))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))2)))))2)))))2)))))-
```

Figure 3-17. CMD - PHONE - CALL Screen
(Observer, Air Traffic Control Specialist, System Manager, and Technician User Levels)

```
 19:45:46 01/22/98 2045Z                                                     STERLING #4
    +)))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))),
 *   SKY       = OVC080                                                                 *
 *                                                                                      *
 *   VISIBILITY = 10SM                         TEMP/DEWPT   = 4.4  /-1.7  C  40 /29  F*
 *   RVR       = RVRNO                         WIND DIR/SPD = 150/07                     *
 *   PRESENT WX =                              ALTIMETER    = 30.32                      *
 *                                                                                      *
 *   REMARKS    = RMK AO2                                                                *
 *                                                                                      *
 *                                                                                      *
 *METAR KST2 221956Z AUTO 16005KT 10SM OVC080 04/M01 A3030 RMK AO2 SLP262        *
 *T00441011                                                                             *
 *                                                                                      *
 *                                                                                      *
 *                                                                                      *
 *                                                                            COMMANDS  *
  *                    SELECT ITEM TO BE CHANGED:                +)))))0)))))0)))))1
 *   1. OBSERVER PASSWORD      4. SYSTEM MANAGER PASSWORD        *     *     *     *
  *   2. TECHNICIAN PASSWORD    5. REMOTE ACCESS CODE            /)))))3)))))3)))))1
 *   3. AIR TRAFFIC CONTROLLER 6. EXIT                          *PHONE*     *     *
  *                                                             /)))))3)))))3)))))1
 *                                                             *EXIT *PASSW*TIME *
    .)))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))2)))))2)))))2)))))-
```
Figure 3-18. CMD - PASSW Screen and Entry Prompt (System Manager User Level Only)

3.2.2.3 **User Inputs.** User inputs for the CMD function include:

1. Responses to prompts.

2. Password data entry.

3. Initiating and responding to PHONE calls.

4. Human voice input to the VOICE function.

3.2.2.4 **System Inputs.** System inputs for the CMD function include:

1. System passwords and remote access code.

2. User level of current signed-on user associated with the OID.

3.2.2.5 **Execution.** The procedures for executing the CMD function are:

1. Pressing the CMD function key causes the display of the COMMAND menu screen as shown in figure 3-7. The CMD help screen may be accessed by pressing the HELP key on the function keypad or the zero key (0) on the auxiliary keypad.

2. Users signed on at the observer level can select the OBS function key at anytime. When the OBS function key is selected from the COMMAND menu screen, the OBS menu screen is displayed as shown in figure 3-8. The following functions are available from the CMD-OBS function template: COR, CNCL, XMIT, EXIT, and BACK.

    The OBS functions are provided to correct the last transmitted METAR/SPECI report and to transmit or cancel a pending SPECI before the edit time expires.

3.   Users signed on at the air traffic control specialist and technician levels can select the VOICE function. When the VOICE function is selected, the VOICE function template replaces the CMD function template. The VOICE function is selected from the CMD function template. The functions that may be selected are TYPE, RCORD, NOTAM, RPLAY, ABORT, EXIT and BACK. See figure 3-12.

The VOICE - TYPE function is used to sequence through the selection of automated voice weather broadcast outputs which consist of: ONE MINUTE; LAST OBSERVATION; INOPERATIVE; and DELETED. It controls the contents of the automated voice weather broadcast that is available from the radio and dial-in telephone broadcast.

If the user selects INOPERATIVE or DELETED, the question "IS THIS CORRECT(Y OR N)?" will be asked when exiting. Please note that in order to use the DELETED option, a NOTAM must be broadcast from the site (i.e., APPEND NOTAM = YES must be displayed).

The remaining function keys on the VOICE function template are provided to control the recording and disposition of a manual voice message (i.e., NOTAM). The user can select the following functions from the VOICE function template: BACK, TYPE, ABORT, NOTAM, RCORD, RPLAY, and EXIT.

VOICE - RPLAY can be used to replay the current manually recorded voice message for broadcast (i.e., NOTAM) stored in the voice processor system, if any. Only the designated OID can use this function. See figure 3-45 for designated VOICE PORT. The EXIT function will return the user to the 1-Minute Screen.

The first step in the procedure for recording a manual voice message for broadcast is to remove the handset from the cradle and select the VOICE - RCORD function key. The voice keypad changes to resemble figure 3-13. RCORD is highlighted. This action issues a command to enable the voice processor system recording function. In addition, the following information is displayed on the OID screen:

PRESS ANY KEY TO BEGIN MESSAGE
PRESS ANY KEY TO END MESSAGE

After a key is pressed the screen changes to resemble figure 3-14. The time continues to decrement by 1 second until any key is pressed or time runs out. Recording stops automatically after 90 seconds of actual record time or when the user presses any key. The newly recorded message is replayed once automatically.

The new manually recorded voice message may be replayed by pressing the VOICE - RPLAY function key. This issues a command to the voice processing system to play the manual voice message over the OID handset. If the manual voice message is unsatisfactory, another attempt may be made by repeating the above procedure.

To append the manually recorded voice message (i.e., NOTAM) to the information broadcast available from the ground-to-air radio and the telephone message, use the VOICE - NOTAM function. The NOTAM function will act as a toggle to change the "APPEND NOTAM =" field from NO to YES and from YES to NO. See figure 3-15.

4.   Users signed on at the technician or system manager levels can select the TIME function key. When the TIME function key is selected, the screen prompt, "ARE YOU SURE (Y/N)?" appears. Pressing "Y" causes the ASOS to contact the AOMC and update the ASOS system time. The time display at the top of the screen will remained highlighted until the time is updated.

5.   Users signed on at the system manager level can select the PASSW function key. When the PASSW function key is selected, a numbered menu with a prompt for user selection of the next action is displayed in the lower portion of the OID screen. The display contains the following items:

                              SELECT ITEM TO BE CHANGED:
1. OBSERVER PASSWORD   4. SYSTEM MANAGER PASSWORD
2. TECHNICIAN PASSWORD   5. REMOTE ACCESS CODE
3. AIR TRAFFIC CONTROLLER   6. EXIT

Only responses in the range 1-6 will be accepted. Any other input will result in an audible tone and the display of an error message on the OID screen.

Respond to the "SELECT ITEM TO BE CHANGED:" prompt with the menu number for the remote access code or the desired user level password to be changed. If the menu number is in the range   1-4, the menu display will disappear from the OID screen and a prompt to enter the old password for the selected user level appears as follows:

ENTER OLD PASSWORD:

Enter the current password for the selected user level. If the entered old password does not exactly match the system password for the selected user level, an audible tone sounds and an error message appears on the OID screen. If the entered old password matches the system password for the selected user level, an additional prompt to enter the new password for the selected user level appears as follows:

ENTER NEW PASSWORD:

Enter the new password for the selected user level. A password may consist of six to 12 characters. Another prompt appears requesting that the new password be entered again to verify that there were no data entry errors:

ENTER NEW PASSWORD AGAIN:

After the new password is entered again, if it does not match exactly the first entry of the new password, an audible tone sounds, an error message is displayed on the OID screen, and then the numbered menu is redisplayed. If the second new password entry matches exactly the first entry, then the numbered menu is redisplayed on the lower portion of the OID screen.

If menu choice 5 is selected, the procedure is the same as described above, except the word PASSWORD in all prompts is replaced by REMOTE ACCESS CODE.

If menu choice 6 is selected, the numbered menu disappears from the OID screen and the user is returned to the 1-Minute Screen.

6.   Users signed on at all levels can select the PHONE function. (NOTE: The unsigned user does

not have access to the PHONE function). When the PHONE function is selected, a new screen with a new function template is displayed. The functions displayed are: PRINT, HANG, ANSWR, EXIT, BACK, and CALL. See figure 3-16.

If the user receives the message "YOU ARE BEING CALLED BY OID #[ ]", where [ ] could be any OID, the user should select PHONE and then ANSWR. A typewritten message will be displayed from the caller, a space is provided for the user to respond in the same typewritten manner. A new keypad with ABORT, BACK, and EXIT as the only options is displayed. All three options will perform a "hang up." ABORT returns the user to the 1-Minute Screen as does EXIT. BACK returns the user to the previous menu screen.

If the user wishes to contact another OID, the following keys should be selected in order: PHONE, CALL, and then the appropriate OID. A space is provided for the message the user wishes to convey. The response will appear in a similar typewritten manner. A new keypad with ABORT, BACK, and EXIT as the only options is displayed. All three options will perform a "hang up." ABORT returns the user to the 1-Minute Screen as does EXIT. BACK returns the user to the previous menu screen.

3.2.2.6 Termination. The CMD-EXIT function or the EXIT function from any of the CMD functions, is used to terminate the CMD function and return to the 1-Minute Screen.

3.2.2.7 Restart. From the 1-Minute Screen select the CMD function key to restart the CMD function.

3.2.2.8 Outputs. Outputs of the CMD function are:

1.   Updated system passwords and remote access code.

2.   The early transmission or cancellation of a SPECI report.

3.   The correction of last transmitted METAR/SPECI report.

4.   Commands to voice processing system to start/stop the recording function, append manual voice message (i.e., NOTAM) to the automated voice weather broadcast, delete automated voice weather broadcast output, replay and review the current manually recorded voice message (i.e., NOTAM).

5.   Commands to remove the automated voice weather broadcast output to the voice processing system so that only the manually recorded voice message (i.e., NOTAM) is broadcast from ASOS.

6.   Selection of automated voice weather broadcast output type (i.e., last observation or one minute).

7.   The conveyance of user generated messages from one OID to another.

3.2.2.9   Interrelationship. VOICE-RCORD and VOICE-RPLAY functions can only be used with the designated OID location, configured with the handset, cradle and speaker, or an operator headset, connected to the voice processing system. Manual recording of voice messages, as well as replaying the current manual voice message, if any, must be accomplished at this OID location. See figure 3-45 for the designated VOICE PORT. All other VOICE functions may be accessed from any OID.

3.2.3   **EDIT Function.**

The EDIT function allows observer and air traffic control specialist level users to edit the 1-minute observation data on the 1-Minute Screen. Observer level users may edit the following 1-minute observation fields: SKY, VISIBILITY, RVR, PRESENT WX, REMARKS, TEMP/DEWPT, WIND DIR/SPD, and ALTIMETER. Air traffic control specialist level user may edit the PRESENT WX and REMARKS fields only. The EDIT function cancels the sensor derived output from the sensor processing weather reporting algorithms and allows the manual entry of information. EDIT also allows the augmentation of information that is beyond the capability of ASOS. Appendix I contains the rules and quality control considerations that apply to the EDIT function. Figure 3-19 shows the EDIT screen. The EDIT help screen can be accessed by pressing the HELP key on the function keypad or the zero key (0) on the auxiliary keypad.

3.2.3.1   **Initialization.**   The 1-Minute Screen must be displayed to access the EDIT function.

3.2.3.2   **Execution Options.**   When an observer level user selects the EDIT function key from the 1-Minute Screen, the first field of the 1-minute data available for edit (SKY) is highlighted and the user is presented with the following EDIT functions:

RESET -   Controls the automatic/manual processing status of the selected sensor algorithm output providing the 1-minute observation. Used to toggle between the automatic algorithm processing output and the manually edited value of the parameter, if it exists.

PREV -   Controls selection of the previous sequential field on the 1-Minute Screen for purpose of making changes to the entry in the field. Selected field is highlighted.

REPRO -   Allows the user to preview the effects of changes made to the 1-Minute Screen.

REM -   Allows the user to edit the remarks field. Figure 3-20 shows the EDIT - REM screen. The REM help screen may be accessed by pressing the HELP key on the function keypad or the zero key (0) on the auxiliary keypad.

   PRINT -   Prints the current screen on the ASOS printer.

   TORN   -   Selecting this function allows the user to edit the remark field for tornadic activity and will generate an SPECI report. This function is only active if a tornadic event is being reported.

   PREV   -   The cursor is moved to the previous field in the AUTO REMARK area.

   SEQN   -   Allows the user to toggle an AUTO REMARK field ON and OFF.

   MAN   -   Allows the user to edit user (manual) remarks.

   ABORT -   Disregards all changes made since being in the EDIT function and returns the user to the 1-Minute Screen.

   EXIT   -   Returns the user to the 1-Minute Screen.

   BACK   -   Saves any changes made an returns the user to the EDIT screen.

   NEXT   -   Moves the cursor to the next field in the AUTO REMARK area.

ABORT -   Causes the system to ignore any changes that occurred while the user was in the EDIT function, immediately exits the EDIT function, an returns the user to the 1-Minute Screen.

EXIT -   Allows user to exit the EDIT function. Any changes to the 1-minute observation data will automatically be stored and used in subsequent algorithm processing until after the transmission of the next hourly METAR report. After the hourly METAR report is transmitted, most of the 1-minute data fields will have the manual entries deleted and only the automatically provided algorithm output will be displayed. (NOTE: Manual entries in both the RVR and PRESENT WX fields are NOT deleted after the next hourly METAR report has been transmitted.)

NEXT -   Controls selection of the next sequential field on the 1-Minute Screen for purpose of making changes to the entry in the field. Selected field is highlighted. The keyboard RETURN key may also be used for the NEXT function (i.e., to move to the next field on the screen).

In addition to the function keys defined above, there are several dedicated editing keys on the OID keyboard that are used during EDIT function operations:

UP ARROW -   Equivalent to the PREV function key.

DOWN ARROW -   Equivalent to the NEXT function key.

LEFT ARROW -   Used to move the cursor to the left of the current cursor location, within a selected field. Will not move past the beginning of a field.

RIGHT ARROW -   Used to move the cursor to the right of the current cursor location, within a selected field. Will not move past the end of a field.

RE-MOVE -   Used to delete the character at the current cursor position. Characters to right of cursor fill to left.

INSERT HERE -   Used to toggle between Replace mode and Insert mode. EDIT function initializes in Replace mode.

3.2.3.3 **System Inputs.** System inputs for the EDIT function include:

    1.   1-minute observation data including:

                sky condition.
                visibility.
                runway visual range (RVR).
                present weather data.
                ambient temperature.
                dewpoint temperature.
                wind speed and direction.
                altimeter setting.
                automated remarks.
2.   User level of current signed-on user associated with the OID.

```
20:12:00 01/22/98 2111Z                                                 STERLING #4
   +)))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))),
*  SKY       = BKN075                                                              *
*                                                                                  *
** VISIBILITY = 3SM     TWR = 1/2SM     TEMP/DEWPT  = 4.4  /-1.7  C  40 /29  F*
*  RVR       = RVRNO                    WIND DIR/SPD = 150/05                       *
** PRESENT WX = +FC +TSRAGR             ALTIMETER    = 30.32                        *
*                                                                                  *
*  REMARKS   = RMK TORNADO B05 AO2 SFC VIS 3 TSB08RAB08GRB08 TS                    *
*             SE MOV NE P0000                                                      *
*                                                                                  *
*SPECI KST2 222109Z 15004KT 1/2SM +FC +TSRAGR BKN075 04/M02 A3033 RMK TORNADO  *
*B05 AO2 SFC VIS 3 TSB08RAB08GRB08 P0000                                       *
*                                                                                  *
*                                                                                  *
*                                                                                  *
*                                                                                  *
*                                                                EDIT        *
 * MAG WIND DIR/SPD:  170/05                                  +)))))0)))))0)))))1
 *                                                            *RESET*     *PREV *
 * RELATIVE HUMIDITY: 64         STATION PRESSURE:  30.02  /)))))3)))))3)))))1
 *                               PRESSURE ALTITUDE: -110    *REPRO* REM *ABORT*
 * SEA LVL PRESSURE:  1027.1     DENSITY ALTITUDE:  -1300   /)))))3)))))3)))))1
 *                                                            *EXIT *     *NEXT *
   .)))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))2)))))2)))))2)))))-
```

Figure 3-19. EDIT Screen (Observer and Air Traffic Control Specialist User Levels)

Find	Insert Here	Re-move
Select	Prev. Screen	Next Screen
	▲	
◄	▼	►

EDITING Keypad On The OID Keyboard

```
 20:12:32 01/22/98 2112Z                                                STERLING #4
     +)))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))),
 * OBS              RMK TORNADO B05 AO2 SFC VIS 3 TSB08RAB08GRB08 TS              *
 * REMARK           SE MOV NE P0000                                              *
 *                                                                              *
 *                                                                              *
 * TORNADIC         TORNADO B05                                                  *
 * REMARK                                                                        *
 *                                                                              *
 * MANUAL           TS SE MOV NE                                                 *
 * REMARK                                                                        *
 *                                                                              *
 * AUTO REMARK                                                                   *
 *                                                                              *
 *    PREWX        ON    TSB08RAB08GRB08                                         *
 *    PRECIP       ON                                                            *
 *    LIGHTNING    ON                                           REMARKS EDIT    *
 *    WIND         ON                                       +)))))0)))))0)))))1 *
 *    TEMP         ON                                       *PRINT*TORN *PREV *
 *    VISIBILITY   ON    SFC VIS 3                          /)))))3)))))3)))))1 *
 *    SKY          ON                                       *SEQN * MAN *ABORT*
 *    PRESSURE     ON                                       /)))))3)))))3)))))1 *
 *                                                          *EXIT *BACK *NEXT *
    .)))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))2)))))2)))))2)))))-
```
Figure 3-20. EDIT-REM Screen (Observer and Air Traffic Control Specialist User Levels)

3.2.3.4 **Execution.**   The procedures for executing the EDIT function are:

1.   Select the EDIT function key from the 1-Minute Screen menu template. The EDIT menu function template is displayed (figure 3-19) and the SKY field is highlighted for observer level users. If an hourly METAR or SPECI report is pending (flashing "*** HOURLY PENDING ***" or "*** SPECIAL PENDING *** message at top of OID screen), the flashing message is replaced with the amount of time left to edit before the report is automatically transmitted.

2.   To edit a 1-minute observation, use the PREV and NEXT function keys (or the dedicated Up Arrow and Down Arrow editing keys on the OID keyboard) to select the field of interest on the 1-Minute Screen. Selected field is highlighted.

3.   Once a field has been selected, use the dedicated Left Arrow and Right Arrow editing keys on the OID keyboard, as required, to position the cursor on the character of interest within the selected field.

4.   The EDIT function cursor initializes in <u>replace mode</u> by default. The dedicated INSERT HERE editing key on the OID keyboard can be used to toggle to <u>insert mode</u>. The dedicated RE-MOVE key on the OID keyboard can be used, as required, to delete characters in the selected field at the cursor location.

5.   Enter new value or add additional information to the selected field at the position of the cursor. The completion of the edit operation can be indicated by pressing the keyboard RETURN key, or by selecting any of the EXIT, PREV, or NEXT function keys. Selecting REPRO from the menu keypad will allow the user to view the effects the changes have produced on the other data. Everything that has been changed will be highlighted. If the results are not satisfactory, pressing ABORT will ignore all changes made since being on this page and return the user to the 1-Minute Screen.

6.   If the change made does not conform to the EDIT rules and data quality checks when the field is terminated by the PREV, NEXT, EXIT, or keyboard RETURN key, an audible tone sounds and an error message will be displayed indicating the problem with the user's entry. The selected field on the 1-Minute Screen will not change. The user has the option of correcting the entry in the selected field, selecting RESET to switch the selected field back to the automatically processed value, or using the ABORT function to cause the system to discard all changes made in this EDIT session. If the ABORT function key is selected, the user is returned to the 1-Minute Screen.

7.   If the change made in the selected field meets field-dependent rules and data quality checks when the field is terminated by the PREV, NEXT, EXIT, or keyboard RETURN key, an asterisk (*) is displayed next to the field label to indicate that the sensor has been placed in manual mode. An augmentation, however, will not cause the asterisk to appear. Refer to Appendix I for a list of reportable field entries/values.

8.   If the effect of the edited parameter is determined to be acceptable, no action is required other than to select the EXIT function key. If the edited parameter causes undesired changes in other 1-minute data fields, the user can re-select the field and perform a new edit of the parameter, or select the ABORT function key to abandon the change. Changes made to the 1-minute observation using the EDIT function have no effect on ASOS algorithm processing or output products until the EDIT-EXIT function key is selected.

9.   Editing a 1-minute observation parameter causes the sensor AUTO/MAN status (as displayed on the REVUE-SENSR-STAT display page - figure 3-67) to change to MAN. The system no longer uses the automatic output of the appropriate weather reporting algorithm, but instead, outputs the manually edited value/entry. The RESET function can be used to reset a parameter back to the automatically processed value. RESET can also be used to toggle a parameter from the automatically processed value back to a manually entered value, if one exists.

10. Air Traffic Control Specialists only have editing capabilities for the PRESENT WX and REMARKS fields.

11. Use EXIT to store the changes and to return to the 1-Minute Screen.

3.2.3.5 **Termination.** The functions ABORT and EXIT may be used to terminate the EDIT function. ABORT is used to cancel any changes made in the current EDIT session. EXIT is the normal termination selection used to store changes that have been generated within the EDIT function. ABORT and EXIT both terminate the EDIT function and cause the 1-Minute Screen with the primary menu function template to be displayed.

3.2.3.6 **Restart.** Selecting EDIT from the 1-Minute Screen will restart the EDIT function.

3.2.3.7 **Outputs.** Outputs of the EDIT function are:

1.   Manually edited 1-minute observation parameter values.

2.   Generation of a SPECI report, if required.

3.   Control flag (i.e., asterisk (*)) that indicates whether each 1-minute observation parameter has been manually edited (i.e., placed in manual mode of operation).

4.   Updated sensor AUTO/MAN status (as shown on display page for REVUE-SENSR-STAT function).

3.2.3.8 **Interrelationship.** The EDIT function allows observer level users to make on-line changes or additions to the 1-minute observation parameters generated by the ASOS. If an observer is signed on while an air traffic control specialist is also signed on, then only the observer has access to the EDIT function. If only the air traffic control specialist level user is signed on, they can edit only the PRESENT WX and REMARKS fields. EDIT is required in some cases to augment the observations with information that ASOS is unable to gather or process automatically.

In cases where a 1-minute observation parameter displayed on the 1-Minute Screen is changed by the EDIT function, the system marks the parameter with an asterisk (*) to denote that the automatically processed value has been changed by the observer or air traffic control specialist level user. This action also causes the status of the associated sensor's automatic processing to be changed from AUTO to MAN on the REVUE-SENSR-STAT display page. See figure 3-67. The manual status of a sensor associated with a 1-minute observation parameter is maintained until the next hourly METAR report is transmitted. At that time, the sensor status is changed from MAN (manual) back to AUTO (automated) and if the sensor report processing is ON, the manually edited parameter reverts to the current automated algorithm output value. If the sensor status changed to AUTO (automated) and the sensor report processing is OFF, the manually edited parameter will revert to M (Missing) after the next hourly METAR report is transmitted. The only exceptions to this rule are the RVR and PRESENT WX fields. These field remains in manual mode until changed back to the automated mode of operation. Please note that the observer user level has access to both the RVR and PRESENT WX fields. The air traffic control specialist only has access to the PRESENT WX field.

Manually augmenting the automatic cloud report in the SKY field of the 1-Minute Screen with layer descriptions above the design limit (12,000 feet) of the ceilometer, will <u>not</u> result in placing the ceilometer in manual mode. Manually editing or augmenting the obscurations portion of the present weather report in the PRESENT WX field of the 1-Minute Screen, will <u>not</u> result in placing the present weather sensor (i.e., precipitation identifier) in manual mode.

If the ALTIMETER field on the 1-Minute Screen is edited, report processing for the pressure sensors is automatically turned off. After the next hourly METAR report is transmitted, the altimeter field reverts back to automatic mode which is "M" (missing). All METAR/SPECI reports transmitted subsequent to the editing of the ALTIMETER field, will have the maintenance indicator flag ($) appended to the end of the report. Automatic processing of pressure sensor data will be resumed only after a technician certifies the sensors' operation and restores the report processing. When this occurs, the pressure sensors will no longer cause the maintenance indicator flag ($) to be appended to the transmitted reports.

Manually editing the wind speed and direction on the 1-Minute Screen will place an 'E' for estimated before the wind reports on the Video Display Unit (VDU) and the Airline Display. An 'E' for estimated is not placed before the wind reports in the METAR/SPECI reports or on the OID's 1-Minute Screen.

3.2.4 <u>**TWR Function.**</u>

The Tower Visibility (TWR) function allows observer and air traffic control specialist level users to make on-line entries to the tower visibility field on the 1-Minute Screen. (<u>PLEASE NOTE</u>: If both the observer and air traffic control specialist level users are signed on ASOS at the same time, both have access to the TWR function and may enter data in the TWR field.) Figure 3-21 shows the TWR display screen. The TWR help screen may be accessed by pressing the HELP key on the function keypad or the zero key (0) on the auxiliary keypad.

3.2.4.1 **Initialization.** The 1-Minute Screen must be displayed on the OID to access the TWR function.

3.2.4.2 **Execution Options.** When an observer or air traffic control specialist level user selects the TWR

function key from the 1-Minute Screen, a prompt is displayed for the entry of a tower visibility value and the user is presented with the following functions:

ABORT -   Causes the system to ignore any changes that occurred while the user was in the TWR function, and returns the user to the 1-Minute Screen.

EXIT -   Allows the user to exit the TWR function. Any changes to the tower visibility data will automatically be stored and used in subsequent algorithm processing. The tower visibility will remain at the value set until an observer or air traffic control specialist manually changes or deletes it.

3.2.4.3 **User Inputs.**   Local user inputs to the TWR function are:

1.   Tower visibility values that match exactly one of the reportable visibility values. Refer to Appendix I for a list of all reportable visibility values.

```
 20:15:49 01/22/98 2115Z         *** SPECIAL PENDING ***         STERLING #4
    +))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))),
** SKY       = BKN020                                                          *
*                                                                             *
** VISIBILITY = 3SM    TWR = 1/2SM     TEMP/DEWPT  = 4.4  /-1.7  C  40 /29  F*
*  RVR       = RVRNO                   WIND DIR/SPD = 150/05                    *
** PRESENT WX = +FC +TSRAGR            ALTIMETER    = 30.32                     *
*                                                                             *
*  REMARKS    = RMK TORNADO B05 AO2 SFC VIS 3 TSB08RAB08GRB08 TS               *
*              SE MOV NE P0000                                                 *
*                                                                             *
*SPECI KST2 222114Z 15005KT 1/2SM +FC +TSRAGR BKN020 04/M02 A3032 RMK TORNADO  *
*B05 AO2 SFC VIS 3 TSB08RAB08GRB08 TS SE MOV NE P0000                          *
*                                                                             *
*                                                                             *
*                                                                             *
*                                                                             *
 *                                                    +)))))0)))))0)))))1
*                                                     *     *     *     *
 *                                                    /)))))3)))))3)))))1
*                                                     *     *    *ABORT*
 *                                                    /)))))3)))))3)))))1
*                                                     *EXIT *     *     *
   .)))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))2)))))2)))))2)))))-
```
Figure 3-21. TWR Screen (Observer and Air Traffic Control Specialist User Levels)

3.2.4.4 **System Inputs.**   System inputs for the TWR function include:

    1.   1-minute observation report data including:

          -        sky condition.
          -        visibility.
          -        present weather.
          -        ambient temperature.
          -        dewpoint temperature.
          -        automated remarks.

    2.   Tower visibility.

    3.   User level of current signed-on user associated with the OID.

3.2.4.5 **Execution.**   The procedures for executing the TWR function are:

    1.   Select the TWR function key from the 1-Minute Screen. The primary function template is replaced with the TWR function template (figure 3-21).

    2.   Enter new value to the tower visibility field at the position of the cursor. The completion of the operation can be indicated by pressing the keyboard RETURN key, or by selecting the EXIT key.

    3.   If the change made does not conform to the data entry rules and data quality checks when the field is terminated by the EXIT or keyboard RETURN key, an audible tone sounds and an error message will be displayed indicating the problem with the user's entry. The field on the 1-Minute Screen will not change. The user has the option of changing the tower visibility field or using the ABORT function to cause the system to discard all changes made in this session. If the ABORT function key is selected, the user is returned to the 1-Minute Screen and the changes made are ignored.

        The user must enter one of the ASOS reportable visibility values in response to this prompt. (Refer to Appendix I for a list of all reportable visibility values.) Press the space bar to clear the current tower visibility entry and then press EXIT. Selection of the ABORT key will ignore any changes made to the TWR field and return the user to the 1-Minute Screen.

    4.   If the effect of the edited parameter is determined to be acceptable, no action is required other than to select the EXIT function key. If the edited parameter causes undesired changes in other 1-minute observation reports, the user can re-select the field and perform a new edit of the parameter, or select the ABORT function key to abandon the change. Changes made to 1-minute observation reports using the TWR function have no effect on ASOS algorithm processing or output products until the TWR-EXIT function key is selected.

    5.   Use EXIT to store the changes and to return to the 1-Minute Screen.

3.2.4.6 **Termination.**   The functions ABORT and EXIT may be used to terminate the TWR function. ABORT is used to cancel any changes made in the current session. EXIT is the normal termination selection used to store changes that have been generated within the TWR function. ABORT and EXIT both terminate the TWR function and cause the 1-Minute Screen to be displayed.

3.2.4.7 **Restart.** Selecting TWR from the 1-Minute Screen will restart the TWR function.

3.2.4.8 **Outputs.** Output of the TWR function is the tower visibility value.

3.2.4.9 **Interrelationship.** The TWR function allows users to make on-line entries to the tower visibility field.

3.2.5 **REVUE Function.**

The Review (REVUE) function allows all ASOS users to review various ASOS data files. Local ASOS users are not required to be signed on to the system as any specific user level to review and print data files. Only selected information is restricted for review by the necessary user levels. In order to be able to change the contents of selected data files, the ASOS user must be signed on at the appropriate level (observer, air traffic control specialist, technician, system manager) for the specific data file. These levels will be indicated below for each particular REVUE function that allows changes to be made. Users signed on at the air traffic control specialist level are only permitted to have access to a subset of REVUE functions as identified below in the specific sections. The REVUE function provides access to the following types of ASOS data:

User Level	REVUE Function
All Users Levels	**RPT** - METAR/SPECI Reports, 5-Minute Observations, SHEF Reports, and Daily and Monthly Summary Messages
UNS, OBS, TEC, SYS	**DAILY** - Daily Summary Products
UNS, OBS, TEC, SYS	**MONTH** - Monthly Summary Products
UNS, OBS, TEC, SYS	**SITE** - ASOS Site Information
All User Levels	**SENSR** - Sensor Status and Data Archives
UNS, OBS, TEC, SYS	**SYSLG** - Maintenance Log Information, AFOS Status Messages
UNS, OBS, TEC, SYS	**COMLG** - ADAS and RVR Status Messages
OBS, ATC, TEC, SYS	**EDTLG** - Edit Log Information

Figure 3-22 shows the REVUE display screen. The REVUE help screen may be accessed by pressing the HELP key on the function keypad or the zero key (0) on the auxiliary keypad.

3.2.5.1 **REVUE-RPT Function.** The Review Report (REVUE-RPT) function provides access to five types of archive files stored in the ACU non-volatile memory of ASOS: Reports (METAR and SPECI), 5-minute observations for the past 12 hours, SHEF Reports, Daily Summary Messages (DSM) if generated, and Monthly Summary Messages (MSM) if generated. Figure 3-23 shows the REVUE-RPT screen. The REVUE-RPT help screen may be accessed by pressing the HELP key on the function keypad or the zero key (0) on the auxiliary keypad.

The REVUE-RPT-OBS function provides access to the archive file containing all METAR and SPECIs generated by the system, either automatically or manually (GENOB function), for the past 31 days plus so far today. It also contains entries of all sign on/off actions by observer and air traffic control specialist level users for the past 31 days plus so far today. Each report entry in this archive file is preceded with the day, month, year, and Local Standard Time (LST) of transmission (or storage) of the report. The initials of the observer signed on to the system at the time of the report, if any, are placed in parentheses at the end of the report. Reports that have been generated, but canceled by user action, are stored with the characters CNCL placed at the end of the report. SPECI reports which are canceled automatically by ASOS are not archived in this file, but in the edit log (EDTLG).

There are presently three types of SPECIs which are prioritized as follows: New/Different, Continuation of the current SPECI, and Reversal of the current SPECI. When the ASOS system receives multiple SPECIs, it responds as follows:

1.   When a tornadic SPECI occurs, any previously pending SPECI is FIBIed (Filed, But Impractical to Transmit) and the new tornadic SPECI is transmitted immediately. The FIBIed SPECI is archived in the REVUE-RPT-OBS file.

2.   When a New/Different or Continuation of trend SPECI occurs, the latest SPECI is transmitted immediately. The pending SPECI that was superseded by the latest SPECI is <u>not</u> archived.

3.   When a reversal occurs, the original SPECI is canceled and archived in the edit log (EDTLG).

The second type of archive file contains 5-minute observations, in METAR format, for the past 12 hours. It is possible to store up to three user-requested 2-hour archive files of selected 5-minute observations.

The third type of archive file contains the Standard Hydrometeorological Exchange Format (SHEF) reports that may have been generated and transmitted. As a minimum, these reports will be stored for the past 3 days plus so far for the current day. This file is not available to the air traffic control specialist user level.

The fourth archive file will contain Daily Summary Messages (i.e., if this option has been selected by the system manager). These messages are encoded directly from the data and information contained in the daily summary products. Messages are stored for a period of at least 10 days. This file is not available to the air traffic control specialist user level.

The fifth archive file will contain Monthly Summary Messages (i.e., if this option has been selected by the system manager). These messages are encoded directly from the data and information contained in the monthly summary products. Messages are stored for the previous month and the current month. This file is not available to the air traffic control specialist user level.

Any ASOS user can review and print any of the five archive files mentioned above without the requirement of being signed on to the system. Users signed on as air traffic control specialists are only permitted to have access to the METAR/SPECI reports and 5-minute observations.

3.2.5.1.2   *Initialization.*   The 1-Minute Screen must be displayed on the OID to access the REVUE- RPT function.

3.2.5.1.3   *Execution Options.*   After selecting the REVUE function from the 1-Minute Screen, and then the RPT function from the REVIEW function template, the user is presented with the REVIEW OBSERVATION screen as shown in figure 3-23. The REVIEW OBSERVATION screen provides the user with the following functions:

OBS -   The REVUE-RPT-OBS function provides access to the METAR/SPECI report archive file andthe REVIEW OBSERVATION screen shown in figure 3-24. The following function keys are available from the REVIEW OBSERVATION screen:

    PRINT -   Causes the current screen of METAR/SPECI reports to be printed. This function is not available to the ATC level users.

DATE -   Prompts the user to supply a month, day, and year (LST) to use in searching for a METAR/SPECI report.

PREV -   Pages back one screen full of METAR/SPECI reports. Causes display of older reports since the most recent ones are appended to the end of the archive file.

EXIT -   Returns the user to the 1-Minute Screen.

BACK -   Returns the user to the previous REVIEW OBSERVATION function template.

NEXT -   Pages ahead one screen full of METAR/SPECI reports. Causes display of newer reports since the most recent ones are appended to the end of the archive file.

5MIN -   The REVUE-RPT-5MIN function provides access to the 5-minute observation archive files and the REVIEW 5 MINUTE screen shown in figure 3-25. The REVIEW 5 MINUTE screen provides the user with the following functions:

PRINT -   Causes the current screen of 5-minute observations in the 12-hour archive file to be printed. This is not available to the air traffic control specialist level user.

PREV -   Pages back one screen full of 5-minute observations in the 12-hour archive file. Causes display of older 5-minute observations since the most recent ones are appended to the end of the archive file.

ARC2H -   Prompts the user to supply a 2-hour archive start time (LST) defining the beginning of a new 2-hour archive of 5-minute observations. This function is available to users signed on at the observer, air traffic control specialist, technician, and system manager levels.

TIME -   Prompts the user to supply a time (LST) to use in searching for a 5-minute observation in the 12-hour archive file.

REV2H -   Provides access to up to three 2-hour archives of 5-minute observations. See figure 3-26. The REVIEW 2 HOUR screen provides the user with the following functions:

        ONE -   Selects the most recently archived 2-hour archive file of 5-minute observations for review.

        TWO -   Selects the second oldest 2-hour archive file of 5-minute observations for review.

        THREE -   Selects the oldest 2-hour archive file of 5-minute observations for review.

        EXIT -   Returns the user to the 1-Minute Screen.

        BACK - Returns the user to the REVIEW 5 MINUTE screen.

EXIT -   Returns the user to the 1-Minute Screen.

BACK -   Returns the user to the REVIEW OBSERVATION screen.
NEXT -   Pages ahead one screen full of 5-minute observations in the 12-hour archive file. Causes display of newer 5-minute observations since the most recent ones are appended to the

end of the archive file.

SHEF -   This function provides access to the SHEF report archive file and the REVIEW SHEF screen shown in figure 3-27. This function is not available to the air traffic control specialist user level. The following function keys are available from the REVIEW SHEF screen:

    PRINT -   Causes the current screen of SHEF reports to be printed.

    DATE -   Prompts the user to supply a month, day, and year (LST) to use in searching for a SHEF report.

    PREV -   Pages back one screen full of SHEF reports. Causes display of older SHEF reports since the most recent ones are appended to the end of the archive file.

    EXIT -   Returns the user to the 1-Minute Screen.

    BACK -   Returns the user to the REVIEW OBSERVATION screen.

    NEXT -   Pages ahead one screen full of SHEF reports. Causes display of newer SHEF reports since the most recent ones are appended to the end of the archive file.

DSM -   If the Daily Summary Messages (DSM) are toggled to be generated by the system, ASOS will archive only the daily final or corrected DSMs for a period of 10 days from the time of their transmission. See figure 3-28. This function is not available to the air traffic control specialist user level. The following function keys are available when reviewing the DSMs:

    PRINT -   Causes the current screen of DSMs to be printed.

    PREV -   Pages back one screen full of DSMs. Causes display of older DSMs since the most recent ones are appended to the end of the archive file.

    EXIT -   Returns the user to the 1-Minute Screen.

    BACK -   Returns the user to the REVIEW OBSERVATION screen.

    NEXT -   Pages ahead one screen full of DSMs. Causes display of newer DSMs since the most recent ones are appended to the end of the archive file.

MSM -   If the Monthly Summary Messages (MSM) are toggled to be generated by the system, ASOS will archive MSMs for a the previous month and the current month. See figure 3-29. This function is not available to the air traffic control specialist user level. The following function keys are available when reviewing the MSMs:

    PRINT -   Causes the current screen of MSMs to be printed.

    PREV -   Pages back one screen full of MSMs. Causes display of older MSMs since the most recent ones are appended to the end of the archive file.

    EXIT -   Returns the user to the 1-Minute Screen.

    BACK -   Returns the user to the REVIEW OBSERVATION screen.

NEXT -   Pages ahead one screen full of MSMs. Causes display of newer MSMs since the most recent ones are appended to the end of the archive file.

EXIT -   Returns the user to the 1-Minute Screen.

BACK -   Returns the user to the REVIEW screen.

```
 13:51:26 01/28/98 1451Z          *** HOURLY PENDING ***          STERLING #4
    +)))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))),
 *                                                                                *
 *                                                                                *
 *                                                                                *
 *                                                                                *
 *                                                                                *
 *                                                                                *
 *                                                                                *
 *                                                                                *
 *                                                                                *
 *                                                                                *
 *                                                                                *
 *                                                                                *
 *                                                                                *
 *                                                                                *
 *                                                            REVIEW       *
  *                                                          +)))))0)))))0)))))1
 *                                                          * RPT *DAILY*MONTH*
  *                                                          /)))))3)))))3)))))1
 *                                                          *SITE *SENSR*COMLG*
  *                                                          /)))))3)))))3)))))1
 *                                                          *EXIT *EDTLG*SYSLG*
   .)))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))2)))))2)))))2)))))-
```
Figure 3-22. REVUE Screen (All User Levels)

```
13:51:31 01/28/98 1451Z            *** HOURLY PENDING ***            STERLING #4
    +)))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))),
 *                                                                              *
 *                                                                              *
 *                                                                              *
 *                                                                              *
 *                                                                              *
 *                                                                              *
 *                                                                              *
 *                                                                              *
 *                                                                              *
 *                                                                              *
 *                                                                              *
 *                                                                              *
 *                                                                              *
 *                                                          REVIEW OBSERVATION*
  *                                                         +)))))0)))))0)))))1
 *                                                         *OBS  *5MIN *SHEF *
  *                                                         /)))))3)))))3)))))1
 *                                                         *DSM  *MSM  *     *
  *                                                         /)))))3)))))3)))))1
 *                                                         *EXIT *BACK *     *
    .)))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))2)))))2)))))2)))))-
```

Figure 3-23. REVUE - RPT Screen (All User Levels)
(Air Traffic Control Specialists Do Not Have Access to SHEF, DSM, and MSM Functions)

```
 13:56:55 01/28/98 1456Z                                             STERLING #4
    +)))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))),
*01/28/98 10:57:37  METAR KST2 281156Z AUTO 02014G23KT 5SM RA BR OVC011        *
*02/01 A2973 RMK AO2 SLP068 P0012 60062 7//// T00170011 10028 20017 55014 $    *
*01/28/98 11:53:29  RNP LOGGED ON AS OBSERVER FROM OID#2                       *
*01/28/98 11:57:36  METAR KST2 281256Z 02014G20KT 360V060 6SM RA BR OVC011    *
*02/01 A2973 RMK AO2 SLP069 P0013 T00170011 $ (RNP)                           *
*01/28/98 12:04:21  RNP LOGGED OFF AS OBSERVER FROM OID#2                      *
*01/28/98 12:06:14  RNP LOGGED ON AS OBSERVER FROM OID#2                       *
*01/28/98 12:17:30  RNP LOGGED OFF AS OBSERVER FROM OID#2                      *
*01/28/98 12:22:37  RNP LOGGED ON AS OBSERVER FROM OID#2                       *
*01/28/98 12:26:34  SPECI KST2 281325Z 02013G22KT 4SM +FC RA BR OVC013 02/01  *
* A2973 RMK TORNADO B24 AO2 P0004 $ (RNP)                                      *
*01/28/98 12:29:30  SPECI KST2 281328Z 02015G22KT 360V070 4SM +FC RA BR       *
*BKN013 OVC017 02/01 A2973 RMK TORNADO B24 MULTIPLE TORNADOES SW MOV NE AO2    *
*P0005 $ (RNP)                                                                 *
*                                                          REVIEW OBSERVATION*
  *                                                         +)))))0)))))0)))))1
 *                                                         *PRINT*DATE *PREV *
  *                                                         /)))))3)))))3)))))1
 *                                                         *     *     *     *
  *                                                         /)))))3)))))3)))))1
 *                                                         *EXIT *BACK *NEXT *
    .)))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))2)))))2)))))2)))))-
```

Figure 3-24. REVUE - RPT - OBS Screen (All User Levels)
(Air Traffic Control Specialists Do Not Have Access to PRINT Function)

```
 13:57:30 01/28/98 1457Z                                          STERLING #4
     +)))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))),
*01/28/98 13:35:31  5-MIN KST2 281435Z AUTO 02012G19KT 2 1/2SM RA BR SCT010    *
*BKN014 OVC023 02/01 A2975 420 96 -1000 030/12G19 RMK AO2 P0009 $              *
*01/28/98 13:40:31  5-MIN KST2 281440Z AUTO 02015G19KT 350V060 2 1/2SM RA BR   *
* FEW010 BKN014 OVC023 02/01 A2975 420 96 -1000 030/15G19 360V070 RMK AO2      *
*P0010 $                                                                       *
*01/28/98 13:45:31  5-MIN KST2 281445Z AUTO 02014G19KT 2 1/2SM +RA BR FEW010   *
* BKN014 OVC021 02/01 A2975 420 96 -1000 030/14G19 RMK AO2 P0011 $             *
*01/28/98 13:50:31  5-MIN KST2 281450Z AUTO 02016G23KT 350V060 2 1/2SM +RA     *
*BR SCT010 BKN016 OVC023 02/01 A2976 410 96 -1000 030/16G23 360V070 RMK AO2    *
*SLP078 P0013 60038 T00170011 55014 $                                          *
*01/28/98 13:55:31  5-MIN KST2 281455Z 02012G23KT 2 1/2SM RA BR BKN012         *
*OVC021 02/01 A2976 410 96 -1000 030/12G23 RMK AO2 SLP079 P0014 60039          *
*T00170011 55014 $                                                             *
*                                                                              *
*                                                      REVIEW 5 MINUTE  *
 *                                                    +)))))0)))))0)))))1
*                                                    *PRINT*      *PREV *
 *                                                    /)))))3)))))3)))))1
*                                                    *ARC2H*TIME *REV2H*
 *                                                    /)))))3)))))3)))))1
*                                                    *EXIT *BACK *NEXT *
    .))))))))))))))))))))))))))))))))))))))))))))))))))))))))))2)))))2)))))2)))))-
```

Figure 3-25. REVUE - RPT - 5MIN Screen (All User Levels)
(Air Traffic Control Specialists Do Not Have Access to PRINT Function)
(Unsigned Users Do Not Have Access to ARC2H Function)

```
 13:59:02 01/28/98 1459Z                                          STERLING #4
     +)))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))),
*5-MIN KST2 280900Z AUTO 03012G19KT 6SM RA BR OVC013 03/02 A2977 400 96 -900   *
* 040/12G19 RMK AO2 P0001 $                                                    *
*5-MIN KST2 280905Z AUTO 03015G21KT 6SM RA BR OVC013 03/02 A2977 400 96 -900   *
* 040/15G21 RMK AO2 P0002 $                                                    *
*5-MIN KST2 280910Z AUTO 03014G21KT 6SM +RA BR OVC013 03/02 A2977 400 96       *
*-900 040/14G21 RMK AO2 P0003 $                                                *
*5-MIN KST2 280915Z AUTO 02010G19KT 6SM RA BR OVC013 03/02 A2977 400 96 -900   *
* 030/10G19 RMK AO2 P0004 $                                                    *
*5-MIN KST2 280920Z AUTO 02011G17KT 7SM -RA OVC013 03/02 A2976 410 96 -900     *
*030/11G17 RMK AO2 P0005 $                                                     *
*5-MIN KST2 280925Z AUTO 03011G17KT 6SM RA BR OVC013 03/02 A2976 410 96 -900   *
* 030/11G17 RMK AO2 P0006 $                                                    *
*5-MIN KST2 280930Z AUTO 03011G17KT 6SM RA BR OVC013 03/02 A2975 420 96 -900   *
* 040/11G17 RMK AO2 P0007 $                                                    *
*                                                      REVIEW 2 HOUR   *
 *                                                    +)))))0)))))0)))))1
*                             ONE: 01/28/98 1100 LST  *PRINT*      *PREV *
 *                             TWO: 01/28/98 0800 LST  /)))))3)))))3)))))1
*                           THREE:                    * ONE * TWO *THREE*
 *                                                    /)))))3)))))3)))))1
*                                                    *EXIT *BACK *NEXT *
    .))))))))))))))))))))))))))))))))))))))))))))))))))))))))))2)))))2)))))2)))))-
```

Figure 3-26. REVUE - RPT - 5MIN - REV2H Screen (All User Levels)
(Air Traffic Control Specialists Do Not Have Access to PRINT Function)

```
 14:00:56 01/28/98 1500Z                                           STERLING #4
     +))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))),
*01/28/98 01:01:33 .A ST2 0128 DH0200/PPH 0.06                                  *
*01/28/98 02:01:34 .A ST2 0128 DH0300/PPH 0.07                                  *
*01/28/98 03:01:34 .A ST2 0128 DH0400/PPH 0.09                                  *
*01/28/98 04:01:34 .A ST2 0128 DH0500/PPH 0.17                                  *
*01/28/98 05:01:34 .A ST2 0128 DH0600/PPH 0.09                                  *
*01/28/98 06:01:33 .A ST2 0128 DH0700/PPH 0.11                                  *
*01/28/98 07:01:32 .A ST2 0128 DH0800/PPH 0.13                                  *
*01/28/98 08:01:34 .A ST2 0128 DH0900/PPH 0.11                                  *
*01/28/98 09:01:34 .A ST2 0128 DH1000/PPH 0.09                                  *
*01/28/98 10:01:34 .A ST2 0128 DH1100/PPH 0.07                                  *
*01/28/98 11:01:34 .A ST2 0128 DH1200/PPH 0.12                                  *
*01/28/98 12:01:34 .A ST2 0128 DH1300/PPH 0.12                                  *
*01/28/98 13:01:33 .A ST2 0128 DH1400/PPH 0.13                                  *
*01/28/98 14:00:33 .A ST2 0128 DH1500/PPH 0.14                                  *
*                                                          REVIEW SHEF    *
 *                                                        +)))))0)))))0)))))1
*                                                        *PRINT*DATE *PREV *
 *                                                        /)))))3)))))3)))))1
*                                                        *     *     *     *
 *                                                        /)))))3)))))3)))))1
*                                                        *EXIT *BACK *NEXT *
     .)))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))2)))))2)))))2)))))-
```
Figure 3-27. REVUE - RPT - SHEF (All User Levels Except Air Traffic Control Specialist)

```
 14:02:21 01/28/98 1502Z                                           STERLING #4
     +))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))),
*01/27/98 23:59:34  KST2 DS 27/01 382037/ 362349//M/M//M/18/M/M/M/M/M/M/M/M/  *
*M/M/M/M/M/M/M/M/00/00/00/00/01/04/06/07/M/02122357/02152341/1/NN/N/N/NN/ET   *
*EP EW                                                                          *
*01/28/98 13:59:34  KST2 DS 1400 28/01 390138/ 351359// 37/ 36//9721035/150/  *
*06/07/08/17/10/11/13/11/09/07/12/12/13/14/-/-/-/-/-/-/-/-/-/-/-/02231238/    *
*02291322/1X                                                                    *
*                                                                               *
*                                                                               *
*                                                                               *
*                                                                               *
*                                                                               *
*                                                                               *
*                                                                               *
*                                                                               *
*                                                          DAILY SUMMARY   *
 *                                                        +)))))0)))))0)))))1
*                                                        *PRINT*     *PREV *
 *                                                        /)))))3)))))3)))))1
*                                                        *     *     *     *
 *                                                        /)))))3)))))3)))))1
*                                                        *EXIT *BACK *NEXT *
     .)))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))2)))))2)))))2)))))-
```
Figure 3-28. REVUE - RPT - DSM (All User Levels Except Air Traffic Control Specialist)

```
 14:02:44 01/28/98 1502Z                                            STERLING #4
    +))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))),
 *01/27/98 23:59:34  KST2 MS 01 38-27/ 36-27/380/360/370/00000000/M/M/M/M/M/M  *
 */18/00000000/18/01272356/02272356/03272330/03272356/04272356/06272356/      *
 *08272356/10272356/12272356/13272356/15272356/17272356/NN/N/N/NNN/EP          *
 *                                                                             *
 *                                                                             *
 *                                                                             *
 *                                                                             *
 *                                                                             *
 *                                                                             *
 *                                                                             *
 *                                                                             *
 *                                                                             *
 *                                                                             *
 *                                                                             *
 *                                                              MONTHLY SUMMARY *
  *                                                            +)))))0)))))0)))))1
 *                                                            *PRINT*     *PREV *
  *                                                            /)))))3)))))3)))))1
 *                                                            *     *     *     *
  *                                                            /)))))3)))))3)))))1
 *                                                            *EXIT *BACK *NEXT *
    .)))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))2)))))2)))))2)))))-
```

Figure 3-29. REVUE - RPT - MSM (All User Levels Except Air Traffic Control Specialist)

3.2.5.1.4 *User Inputs.*   User inputs to the REVUE-RPT function are:

1.   If DATE is selected for any of the REVUE-RPT functions, the user is prompted to enter the date (LST) in the format MM/DD/YY (where MM = 01 through 12, DD = 01 through 31, and YY = 00 through 99) to be used in the search for an entry to start a screen. If any value entered is outside of its range or an illegal date (i.e., 02/30/90) is entered, the error message "INVALID DATE" is displayed to prompt the user for an acceptable input value.

2.   If TIME is selected for the REVUE-RPT-5MIN function, the user is prompted to enter the time of day (LST) as HHMM (where HH = 00 through 23 and MM = 00 through 59) to be used in the search for an entry to start a screen. If the time of day value entered is outside of this range an error message "INVALID TIME" is displayed. If the time is more than 12 hours ago from the current time, the system will display the observations from the beginning of the archive file.

3.   If ARC2H is selected for the REVUE-RPT-5MIN function, the user is prompted to enter the time of day (LST) in the format HHMM (0000 to 2359) to be used as the start time for the generation of a 2-hour archive of 5-minute observations. The start time should be within the range from 12 hours ago to the current time. If the start time value is greater than 12 hours ago, the system will archive the available observations from the beginning of the archive file.

3.2.5.1.5 *System Inputs.*   System inputs for the REVUE-RPT function include:

1.   METAR/SPECI report archive file contains reports for a period of at least the past 31 days plus so far for the current day.

2.   5-minute observation archive file contains 5-minute observations, in METAR format, for the past 12 hours.

3.   Up to three user-requested 5-minute observation archive files may be available. Each archive file contains observations for a selected 2-hour period.

4.   SHEF message archive file contains messages for a minimum of 3 days plus so far today.

5.   Daily Summary Messages, if generated, are stored for a period of 10 days from the time they were generated or transmitted from the site.

6.   Monthly Summary Messages, if generated, are stored for the previous month plus so far the current month.

7.   User level of current signed-on user associated with the OID.

8.   Current time of day (LST).

3.2.5.1.6   *Execution.*   The procedures for executing the REVUE-RPT functions are:

1.   When the REVUE-RPT function is selected, the REVIEW OBSERVATION screen is displayed; the rest of the OID screen will be blank. See figure 3-23.

2.   A function may be selected from the REVIEW OBSERVATION function template. Five functions may be selected using the following function keys: OBS, 5MIN, SHEF, DSM and MSM. Selecting the BACK function returns the user to the REVIEW screen. Selecting the EXIT function terminates the REVUE function and returns the user to the 1-Minute Screen.

3.   After selecting a function, the PRINT function key causes the currently displayed page to be printed for all user levels except the air traffic control specialist.

4.   After selecting a functions, the BACK function key causes the display to return to the REVIEW OBSERVATION screen.

5.   After selecting a function, the EXIT function key causes the display to return to the 1-Minute Screen.

6.   Upon initial selection of the REVUE-RPT-OBS function, the REVIEW OBSERVATION function template is displayed along with a screen of the most recent METAR/SPECI reports archived. The screen uses a maximum of 14 lines for displaying the archive file contents. If the report takes 2 lines, and the second line can not be included on the screen, then it will be presented on the next or previous screen.

The user may page through the OBS archive file contents by using the PREV and NEXT function keys. PREV pages back in time and accumulates a screen full of reports that were recorded immediately before the oldest report on the current screen. NEXT pages forward in time up to the most recent report entered in the archive file. When these functions try to go beyond the beginning or ending of the archive file, the error message "BEYOND BEGINNING OF DATA" or "BEYOND END OF DATA" is displayed and an audible alarm will sound.

The DATE function prompts the user to enter a month, day, and year (LST) to search for a specific date of a report. If a report is found that matches the month, day and year, or is the first report after the entered month, day, and year, that report is used to begin a screen display of consecutive reports. If the date provided is not within the range of dates in the archive file, a message is displayed on the OID screen indicating "DATE NOT FOUND."

7.   Upon initial selection of the REVUE-RPT-5MIN function, the REVIEW 5 MINUTE function template is displayed along with a screen of the most recent contents of the 12-hour 5-minute

observation archive file. The REVIEW 5 MINUTE screen uses a maximum of 14 lines for displaying 5-minute observation archive file contents. The REVIEW 5 MINUTE functions of PRINT, PREV, NEXT, EXIT, and BACK operate the same as the corresponding REVUE-RPT-OBS functions.

The REVUE-RPT-5MIN-TIME function prompts the user to enter a time (LST) of day to search for in the archive file. If a 5-minute observation is found that matches the entered time, or is the first observation after the entered time, then that observation becomes the first in the series of consecutive 5-minute observations displayed on the screen. If the time provided is not within the range of time in the archive file, then the observation closest to that time will be displayed.

The REVUE-RPT-5MIN-ARC2H function prompts the user to supply a 2-hour archive start time (LST) defining the beginning of a new 2-hour archive of 5-minute observations. The start time should be within the range from 12 hours ago to the current time. If the entered time is not within the 12 hour range, then ASOS will begin the archive with the observations that have a time closest to the time entered by the user. If three archive files exist when a new file is created, the newly created file will be labeled ONE, the old ONE will become TWO, the old TWO will become THREE, and the old number THREE will be deleted from the system.

Upon initial selection of the REVUE-RPT-5MIN-REV2H function, the REVIEW 2 HOUR function template is displayed. The rest of the OID screen will be blank except for the default heading including date and time, and the begin dates and times for the three archive files, if they exist.

The user must indicate the 2-hour archive file to display by selecting the ONE, TWO, or THREE functions. By pressing the ONE function, the most recently archived 2-hour archive file will be accessed, if it exists, and the contents of the file will be displayed. By pressing the TWO function, the second most recently archived 2-hour archive file will be accessed, if it exists, and the contents of the archive file will be displayed. By pressing the THREE function, the oldest 2-hour archive file will be accessed, if it exists, and the contents of the file will be displayed.

Once a 2-hour 5-minute observation archive file has been selected for review, the functions PRINT, PREV, EXIT, BACK, and NEXT operate the same as the corresponding REVUE-RPT-OBS functions. In addition, the keyboard RETURN key acts the same as the NEXT function key.

8. Upon initial selection of the REVUE-RPT-SHEF function, the REVIEW SHEF function template is displayed with a screen of the most recent contents of the archive file. The REVIEW SHEF screen uses a maximum of 14 lines for displaying the archive file contents. All other REVIEW-SHEF functions (PREV, NEXT, and DATE) operate the same as the corresponding REVUE-RPT-OBS functions.

9. Upon selection of the REVUE-RPT-DSM function, the most recently encoded Daily Summary Messages will be displayed. The available functions (i.e., PRINT, PREV, EXIT, BACK, and NEXT) all operate the same as the corresponding REVUE-RPT-OBS functions.

10. Upon selection of the REVUE-RPT-MSM function, the most recently encoded Monthly Summary Messages will be displayed. The available functions (i.e., PRINT, PREV, EXIT, BACK, and NEXT) all operate the same as the corresponding REVUE-RPT-OBS functions.

3.2.5.1.7 *Termination.* The EXIT function will terminate the REVIEW-RPT function and return the user to

the 1-Minute Screen.

3.2.5.1.8 *Restart.*   Selecting REVUE from the 1-Minute Screen and then selecting RPT from the REVIEW function template will restart the REVUE-RPT function.

3.2.5.1.9 *Outputs.*   Outputs of the REVUE-RPT function are:

    1.   Hard copy prints of the current screen of METAR/SPECI reports, 5-minute observations, SHEF reports, and Daily and Monthly Summary Messages.

    2.   Up to three 2-hour archive files of 5-minute observations that begin with the 5-minute observation for the start time entered by using the ARC2H function. When these archive files are created they will contain at most a 2-hour snapshot of the current 12-hour archive file.

3.2.5.1.10 *Interrelationship.* The REVUE-RPT function has no interrelationships with other ASOS functions. It serves as a means to review and print data that have been archived over the course of normal ASOS system operations.

3.2.5.2 **REVUE-DAILY Function.** The REVUE-DAILY function provides access to the archive file of daily summary products stored in the ACU non-volatile memory of ASOS. This file contains all daily summary products for the past 31 days plus the summary calculated so far today. The unsigned user, observer, technician, and system manager may review and print the daily summary products. The DAILY function is not available to the air traffic control specialist user level. Only users signed on at the observer level are permitted to change and/or add any data to the products. Each product is composed of three pages, or screens, of data: (1) temperature, wind, and miscellaneous data; (2) precipitation data; and (3) pressure data. Figures 3-30 through 3-32 show the REVUE-DAILY display screens. The REVUE-DAILY help screen may be accessed by pressing the HELP key on the function keypad or the zero key (0) on the auxiliary keypad.
It should be noted that the following fields are not currently supported by ASOS: 24 HR SNOWFALL, SNOW DEPTH, SKY COVER MID-MID, SKY COVER SR-SS, TOTAL SUNSHINE, PERCENT POSSIBLE SUNSHINE, CHARACTER OF SUNRISE, and CHARACTER OF SUNSET.

3.2.5.2.1 *Initialization.* The 1-Minute Screen must be displayed on the OID to access the REVUE-DAILY function.

3.2.5.2.2 *Execution Options.* After selecting the REVUE function key from the 1-Minute Screen and the DAILY function from the REVIEW screen, the user is presented with the following REVUE-DAILY functions that may be selected:

PRINT -   Causes the currently displayed daily summary product to be printed.

PAGE -   Allows user to access all three pages of the product.

DATE -   Prompts the user to supply a month, day, and year (LST) to use in searching for a specific daily summary product.

PREV -   Causes display of older daily summary products since the most recent ones are appended to the end of the archive file.

CHANG -   Allows observer level users to make changes and additions to previous daily summary products. Changes are not permitted to today's daily summary. Daily summaries can only be changed for a 96-hour period after their completion.

EXIT -   Returns the user to the 1-Minute Screen.

BACK -   Returns the user to the REVIEW screen.

NEXT -   Causes display of more recent daily summary products since the most recent ones are appended to the end of the archive file.

```
 11:57:55 01/28/98 1257Z                                                STERLING #4
    +)))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))),
 *                        DAILY SUMMARY FOR 01/28/98 SO FAR TODAY              *
 *                                                                             *
 *24 HR MAX TEMP (F):          39     LATEST DAY MAX TEMP  (0700-1900 LST):37  *
 *24 HR MAX TEMP TIME (LST): 0138     LATEST NIGHT MIN TEMP(1900-0800 LST):36  *
 *24 HR MIN TEMP (F):          35                                              *
 *24 HR MIN TEMP TIME (LST): 1157     SKY COVER MID-MID (TENTHS): N            *
 *24 HR AVG TEMP (F):                 SKY COVER SR-SS   (TENTHS): N            *
 *DEPART FROM NORMAL:                                                          *
 *                                    TOTAL SUNSHINE (MINUTES):   N            *
 *HEATING DEGREE DAYS:                TOTAL SUNSHINE (HOURS):     N            *
 *COOLING DEGREE DAYS:                PERCENT POSSIBLE SUNSHINE:  N            *
 *                                    CHARACTER OF SUNRISE:                    *
 *PEAK WIND SPEED (MPH):       29     CHARACTER OF SUNSET:                     *
 *PEAK WIND DIR (DEG):         30     WEATHER (CODE):             1            *
 *PEAK WIND TIME (LST):      0713                            DAILY DATA     *
  *FASTEST 2MIN SPEED (MPH):  21                          +)))))0)))))0)))))1
 *FASTEST 2MIN DIR (DEG):      30                         *PRINT*PAGE *PREV *
  *FASTEST 2MIN TIME (LST):   0723                         /)))))3)))))3)))))1
 *AVERAGE WIND SPEED (MPH):                               *     *CHANG*DATE *
  *                                                        /)))))3)))))3)))))1
 *                                                        *EXIT *BACK *NEXT *
    .))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))2)))))2)))))2)))))-
```

Figure 3-30. REVUE - DAILY (Page 1 Data)
(All User Levels Except Air Traffic Control Specialist)

```
 11:58:11 01/28/98 1258Z                                                STERLING #4
    +)))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))),
 *                  DAILY PRECIPITATION SUMMARY FOR 01/28/98 SO FAR TODAY     *
 *                                                                             *
 *24 HR PRECIPITATION (IN):   1.23                                            *
 *24 HR SNOWFALL     (IN):   N                                                *
 *SNOW DEPTH         (IN):   N                                                *
 *                                                                             *
 *HOURLY INCREMENTAL PRECIPITATION VALUES (IN):                               *
 *0059  0.06                   1259  -                                        *
 *0159  0.07                   1359  -                                        *
 *0259  0.08                   1459  -                                        *
 *0359  0.17                   1559  -                                        *
 *0459  0.10                   1659  -                                        *
 *0559  0.11                   1759  -                                        *
 *0659  0.13                   1859  -                                        *
 *0759  0.11                   1959  -                        DAILY DATA     *
  *0859  0.09                    2059  -                   +)))))0)))))0)))))1
 *0959  0.07                   2159  -                    *PRINT*PAGE *PREV *
  *1059  0.12                    2259  -                   /)))))3)))))3)))))1
 *1159  0.12                   2359  -                    *     *CHANG*DATE *
  *                                                        /)))))3)))))3)))))1
 *                                                        *EXIT *BACK *NEXT *
    .))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))2)))))2)))))2)))))-
```

Figure 3-31. REVUE - DAILY (Page 2 Data)
(All User Levels Except Air Traffic Control Specialist)

```
 11:58:21 01/28/98 1258Z                                                   STERLING #4
    +)))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))),
 *                         DAILY PRESSURE SUMMARY FOR 01/28/98 SO FAR TODAY          *
 *                                                                                   *
 *HOURLY STATION PRESSURE VALUES:                                                    *
 *                                                                                   *
 *0556Z  29.560                                                                      *
 *1156Z  29.425                                                                      *
 *1756Z  –                                                                           *
 *2356Z  –                                                                           *
 *                                                                                   *
 *AVERAGE STATION PRESSURE:    M                                                     *
 *                                                                                   *
 *MINIMUM SEA LEVEL PRESSURE:  29.72                                                 *
 *TIME OF OCCURRENCE:          1035                                                  *
 *                                                                                   *
 *                                                                    DAILY DATA     *
  *                                                                 +)))))0)))))0)))))1
 *                                                                 *PRINT*PAGE *PREV *
  *                                                                 /)))))3)))))3)))))1
 *                                                                 *     *CHANG*DATE *
  *                                                                 /)))))3)))))3)))))1
 *                                                                 *EXIT *BACK *NEXT *
```

Figure 3-32. REVUE - DAILY (Page 3 Data)
(All User Levels Except Air Traffic Control Specialist)

3.2.5.2.3   *User Inputs.* User inputs to the REVUE-DAILY function are:

1.   If DATE is selected, the user is prompted to enter the date (LST) in the format MM/DD/YY (where MM = 01 through 12, DD = 01 through 31, and YY = 00 through 99) to be used in the search for a daily summary product. If any entered value is outside of its range, the error message "INVALID DATE" is displayed to prompt the user for an acceptable input value.

2.   CHANG is only available for a 96-hour period after the summary's completion. If CHANG is available and selected, the observer may enter new data for any selected element except the following fields: 24 HR AVG TEMP, DEPART FROM NORMAL, HEATING DEGREE DAYS and COOLING DEGREE DAYS.   Various error checking, where possible, is provided for the individual fields of the daily summary product.

3.2.5.2.4   *System Inputs.* System inputs for the REVUE-DAILY function include:

1.   The archive file of daily summary products is maintained for the past 31 days plus the summary calculated so far today. The presence of an "M" in any data field indicates the data are missing. The presence of a blank usually indicates that the data will be computed at the end of the day. If a blank is entered in the "WEATHER (CODE):" field, then no significant weather occurred that day. Blanks are also entered in the" CHARACTER OF SUNRISE" and "CHARACTER OF SUNSET" fields unless augmentation occurs. A dash "-" indicates that the data have yet to be observed since that time of the day has not occurred. An "N" tells the user that these data items are beyond the current capabilities of the ASOS site. The presence of a "T" in the precipitation or snow fields indicates a trace amount.

2.   User level of current signed-on user associated with the OID.

3.   Current date.

3.2.5.2.5   *Execution.* The procedures for executing the REVUE-DAILY function are:

1.   When the REVUE-DAILY function keys are selected, the DAILY DATA function template is displayed, along with the daily summary product calculated so far for today.

2.   The PRINT function may be selected at any time to cause the currently displayed page of the daily summary product to be printed.

3.   The user can page through the archive file by using the PREV and NEXT function keys. PREV will page back in time and display daily summary products in reverse chronological order. NEXT pages forward in time up to the daily summary for today. When these functions try to go beyond the beginning or ending of the file, the error message "BEYOND BEGINNING OF DATA" or "BEYOND END OF DATA" is displayed and an audible alarm will sound.

4.   The DATE function key prompts the user to enter a month, day, and year (LST) to search for in the daily summary product archive file. If a daily summary product is found that matches the month, day, and year entered, that daily summary is displayed. If no daily summary is found, an error message is displayed on the OID screen indicating "DATE NOT FOUND."

5.   Changes to automatically-generated daily summary data may only be made to completed daily summary products, i.e., no changes are allowed to the current daily summary being compiled. Daily summary products are available for change, to the observer level users, for 96 hours following completion of the product. Changes are made by using the CHANG function.

The CHANG function, available to observer level users only, will display a CHANG function template that is used to select fields for change by using the PREV and NEXT functions. The ABORT function will cause all changes made in the current CHANG session to be abandoned and the screen will return to the 1-Minute Screen. The BACK function will update the daily summary product with all changes made in the current CHANG session and return the user to the DAILY DATA screen.   The EXIT function will update the daily summary product with all changes made in the current CHANG session and return the user to the 1-Minute Screen. Figures 3-33 through 3-35 show the CHANG function menu and data field locations.

3.2.5.2.6   *Termination.* The REVUE-DAILY-EXIT function terminates the REVUE-DAILY function and returns the user to the 1-Minute Screen.

3.2.5.2.7   *Restart.* Selecting REVUE from the 1-Minute Screen, select DAILY from the REVIEW function template.

3.2.5.2.8   *Outputs.* Outputs of the REVUE-DAILY function are:

1.   Hard copy prints of the daily summary products selected by the user.

2.   Changes to automatically-generated and manually-entered daily summary product data items stored in the daily summary product archive file.

3.2.5.2.9   *Interrelationship.* The REVUE-DAILY function has an interrelationship with the REVUE-RPT-DSM function. The daily summary product is used to encode the Daily Summary Message (DSM). Since it is not possible to edit the DSM directly, any changes to data in the daily summary product, which are encoded in the DSM, will be encoded in a corrected DSM. The DAILY function serves as a means to review and print data that have been archived over the course of normal ASOS system operations. It also serves a means for the

observer to correct or add data to the daily summary product for 96 hours following its completion.

Various data quality checks associated with the CHANG function are provided, where possible, so that the correct type of input (numeric, text, or mixed) is provided for each daily summary item. For individual fields that do not have data quality checks, the observer is responsible for ensuring that all changes made are valid.

```
 11:57:55 01/28/98 1257Z                                         STERLING #4
    +)))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))),
 *                          DAILY SUMMARY FOR 01/27/98                       *
 *                                                                           *
 *24 HR MAX TEMP (F):         XXXXXX  LATEST DAY MAX TEMP  (0700-1900 LST):XXXXXX*
 *24 HR MAX TEMP TIME (LST): XXXX     LATEST NIGHT MIN TEMP(1900-0800 LST):XXXXXX*
 *24 HR MIN TEMP (F):         XXXXXX                                         *
 *24 HR MIN TEMP TIME (LST): XXXX     SKY COVER MID-MID (TENTHS): XXXXX      *
 *24 HR AVG TEMP (F):                 SKY COVER SR-SS   (TENTHS): XXXXX      *
 *DEPART FROM NORMAL:                                                        *
 *                                    TOTAL SUNSHINE (MINUTES):   XXXXXXX    *
 *HEATING DEGREE DAYS:                TOTAL SUNSHINE (HOURS):                *
 *COOLING DEGREE DAYS:                PERCENT POSSIBLE SUNSHINE:             *
 *                                    CHARACTER OF SUNRISE:      XXXXXXXXXX  *
 *PEAK WIND SPEED (MPH):      XXXXXX  CHARACTER OF SUNSET:       XXXXXXXXXX  *
 *PEAK WIND DIR (DEG):        XXXXXX  WEATHER (CODE):            XXXXXXXXXXX *
 *PEAK WIND TIME (LST):       XXXX                               DAILY DATA  *
  *FASTEST 2MIN SPEED (MPH):  XXXXXX                           +)))))0)))))0)))))1
 *FASTEST 2MIN DIR (DEG):     XXXXXX                           *    *       *PREV *
  *FASTEST 2MIN TIME (LST):   XXXX                             /)))))3)))))3)))))1
 *AVERAGE WIND SPEED (MPH):  XXXXXXXX                          *    *      *ABORT*
  *                                                            /)))))3)))))3)))))1
 *                                                             *EXIT *BACK *NEXT *
    .)))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))2)))))2)))))2)))))-
```
             Figure 3-33. REVUE-DAILY-CHANG (Page 1 Data Field Locations)
                            (Observer User Level Only)

```
 11:58:11 01/28/98 1258Z                                         STERLING #4
    +)))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))),
 *                  DAILY PRECIPITATION SUMMARY FOR 01/27/98                 *
 *                                                                           *
 *24 HR PRECIPITATION (IN):   XXXXXXXXX                                      *
 *24 HR SNOWFALL     (IN):    XXXXXXXXX                                      *
 *SNOW DEPTH         (IN):    XXXXXXXXX                                      *
 *                                                                           *
 *HOURLY INCREMENTAL PRECIPITATION VALUES (IN):                             *
 *0059  XXXXXXXXX              1259  XXXXXXXXX                               *
 *0159  XXXXXXXXX              1359  XXXXXXXXX                               *
 *0259  XXXXXXXXX              1459  XXXXXXXXX                               *
 *0359  XXXXXXXXX              1559  XXXXXXXXX                               *
 *0459  XXXXXXXXX              1659  XXXXXXXXX                               *
 *0559  XXXXXXXXX              1759  XXXXXXXXX                               *
 *0659  XXXXXXXXX              1859  XXXXXXXXX                               *
 *0759  XXXXXXXXX              1959  XXXXXXXXX              DAILY DATA  *
  *0859  XXXXXXXXX              2059  XXXXXXXXX           +)))))0)))))0)))))1
 *0959  XXXXXXXXX              2159  XXXXXXXXX           *    *       *PREV *
  *1059  XXXXXXXXX              2259  XXXXXXXXX          /)))))3)))))3)))))1
 *1159  XXXXXXXXX              2359  XXXXXXXXX           *    *      *ABORT*
  *                                                     /)))))3)))))3)))))1
 *                                                      *EXIT *BACK *NEXT *
    .)))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))2)))))2)))))2)))))-
```
             Figure 3-34. REVUE-DAILY-CHANG (Page 2 Data Field Locations)
                            (Observer User Level Only)

```
 11:58:21 01/28/98 1258Z                                              STERLING #4
     +)))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))),
     *                       DAILY PRESSURE SUMMARY FOR 01/27/98                     *
     *                                                                               *
     *HOURLY STATION PRESSURE VALUES:                                                *
     *                                                                               *
     *0556Z  XXXXXXXXX                                                               *
     *1156Z  XXXXXXXXX                                                               *
     *1756Z  XXXXXXXXX                                                               *
     *2356Z  XXXXXXXXX                                                               *
     *                                                                               *
     *AVERAGE STATION PRESSURE:     XXXXXXXXX                                        *
     *                                                                               *
     *MINIMUM SEA LEVEL PRESSURE:   XXXXXXXXX                                        *
     *TIME OF OCCURRENCE:           XXXX                                             *
     *                                                                               *
     *                                                              DAILY DATA      *
      *                                                            +)))))0)))))0)))))1
     *                                                            *     *     *PREV *
      *                                                           /)))))3)))))3)))))1
     *                                                            *     *     *ABORT*
      *                                                           /)))))3)))))3)))))1
     *                                                            *EXIT *BACK *NEXT *
       .)))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))2)))))2)))))2)))))-
```

Figure 3-35 REVUE-DAILY-CHANG (Page 3 Data Field Locations)
(Observer User Level Only)

3.2.5.3 **REVUE-MONTH Function.** The REVUE-MONTH function provides access to the archive file of monthly summary products stored in the ACU non-volatile memory of ASOS. This file contains the monthly summary product for the previous month plus the summary calculated so far this month. Any ASOS user may review and print the monthly summary products without the requirement of being signed on the system. Users signed on at the air traffic control specialist level do not have access to the REVUE-MONTH function. Only users signed on at the observer level are permitted to change or add additional data to the products.   Each product is composed of three pages, or screens, of data: (1) temperature data; (2) precipitation data; and (3) miscellaneous data. Figures 3-36 through 3-38 show the MONTHLY DATA or REVUE-MONTH display screens. Figures 3-39 through 3-41 show the data field locations in the monthly summary product. The REVUE-MONTH help screen may be accessed by pressing the HELP key on the function keypad or the zero key (0) on the auxiliary keypad.

```
11:59:27 01/28/98 1259Z                                          STERLING #4
    +))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))),
   *               MONTHLY TEMPERATURE SUMMARY -  JAN98 SO FAR THIS MONTH   *
   *AVG DAILY MAXIMUM:    38.0              MAXIMUM TEMPERATURE:   38         *
   *AVG DAILY MINIMUM:    36.0              DATE(S) OF MAXIMUM:    27         *
   *AVG MONTHLY TEMP:     37.0              MINIMUM TEMPERATURE:   36         *
   *DEPART FROM NORMAL:                     DATE(S) OF MINIMUM:    27         *
   *                                                                         *
   *NUM DAYS MAX 32 AND BELOW: 0            NUM DAYS MIN 32 AND BELOW: 0      *
   *NUM DAYS MAX 90 AND ABOVE: 0            NUM DAYS MIN 0  AND BELOW: 0      *
   *                                                                         *
   *HEATING DEGREE DAYS                     COOLING DEGREE DAYS              *
   *MONTHLY TOTAL:            M             MONTHLY TOTAL:          M         *
   *DEPART FROM NORMAL:                     DEPART FROM NORMAL:              *
   *SEASON (JUL 1 - JUN 30): 0              SEASON (JAN 1 - DEC 31): 0       *
   *DEPART FROM NORMAL:       0             DEPART FROM NORMAL:     0         *
   *                                                           MONTHLY DATA  *
    *                                              +)))))0)))))0)))))1
   *                                              *PRINT*PAGE * DEC *
    *                                             /)))))3)))))3)))))1
   *                                              *    *CHANG*      *
    *                                             /)))))3)))))3)))))1
   *                                              *EXIT *BACK *      *
     .)))))))))))))))))))))))))))))))))))))))))))))))))))))))2)))))2)))))2)))))-
```

Figure 3-36. REVUE - MONTH (Page 1 Data)
(All User Levels Except Air Traffic Control Specialist)

```
12:00:07 01/28/98 1300Z                                          STERLING #4
    +))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))),
   *               MONTHLY PRECIPITATION SUMMARY -  JAN98 SO FAR THIS MONTH  *
   *                                                                         *
   *                             PRECIPITATION             SNOW              *
   *MONTHLY TOTAL:               0.18(E)                   N                 *
   *DEPARTURE FROM NORMAL:                                                   *
   *GREATEST IN 24 HOURS:        0.18(E)                   N                 *
   *DATE(S) OF OCCURRENCE:                                                   *
   *GREATEST DEPTH ON GROUND:                              N                 *
   *DATE(S) OF OCCURRENCE:                                                   *
   *                                                                         *
   *NUMBER OF DAYS WITH PRECIPITATION  .01 INCH OR MORE:  0                  *
   *NUMBER OF DAYS WITH PRECIPITATION  .10 INCH OR MORE:  0                  *
   *NUMBER OF DAYS WITH PRECIPITATION  .50 INCH OR MORE:  0                  *
   *NUMBER OF DAYS WITH PRECIPITATION 1.00 INCH OR MORE:  0                  *
   *                                                           MONTHLY DATA  *
    *SHORT DURATION PRECIPITATION AMOUNTS WITH DATE/TIME TAGS:   +)))))0)))))0)))))1
   *5  0.01       272356 30 0.04      272356 100 0.12      272356*PRINT*PAGE * DEC *
    *10 0.02       272356 45 0.06      272356 120 0.13      272356/)))))3)))))3)))))1
   *15 0.03       272330 60 0.08      272356 150 0.15      272356*    *CHANG*      *
    *20 0.03       272356 80 0.10      272356 180 0.17      272356/)))))3)))))3)))))1
   *                                                       *EXIT *BACK *      *
     .)))))))))))))))))))))))))))))))))))))))))))))))))))))))))))2)))))2)))))2)))))-
```

Figure 3-37. REVUE - MONTH (Page 2 Data)
(All User Levels Except Air Traffic Control Specialist)

```
12:00:21 01/28/98 1300Z                                         STERLING #4
    +))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))),
    *                   MONTHLY SUMMARY -  JAN98 SO FAR THIS MONTH          *
    *                                                                       *
    *NUMBER OF CLEAR DAYS:           N                                      *
    *NUMBER OF PARTLY CLOUDY DAYS:   N                                      *
    *NUMBER OF CLOUDY DAYS:          N                                      *
    *                                                                       *
    *TOTAL SUNSHINE (HOURS):         N                                      *
    *PERCENT POSSIBLE SUNSHINE:      N                                      *
    *                                                                       *
    *AVERAGE STATION PRESSURE:       M                                      *
    *                                                                       *
    *HIGHEST SEA LEVEL PRESSURE:     29.87                                  *
    *DATE OF OCCURRENCE:             28                                     *
    *TIME OF OCCURRENCE:             0511                                   *
    *                                                    MONTHLY DATA    *
     *LOWEST SEA LEVEL PRESSURE:      29.72               +)))))0)))))0)))))1
    *DATE OF OCCURRENCE:             28                   *PRINT*PAGE * DEC *
     *TIME OF OCCURRENCE:             1035                /)))))3)))))3)))))1
    *                                                    *     *CHANG*      *
     *AVERAGE SEA LEVEL PRESSURE:     M                  /)))))3)))))3)))))1
    *                                                    *EXIT *BACK *      *
      .)))))))))))))))))))))))))))))))))))))))))))))))))))))))2)))))2)))))2)))))-
```

Figure 3-38. REVUE - MONTH (Page 3 Data)
(All User Levels Except Air Traffic Control Specialist)

```
11:59:27 02/02/98 1259Z                                         STERLING #4
    +))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))),
    *                 MONTHLY TEMPERATURE SUMMARY -  JAN98                  *
    *AVG DAILY MAXIMUM:    XXXXXXXX       MAXIMUM TEMPERATURE:  XXXXXX       *
    *AVG DAILY MINIMUM:    XXXXXXXX       DATE(S) OF MAXIMUM:   XX XX XX     *
    *AVG MONTHLY TEMP:     XXXXXXXX       MINIMUM TEMPERATURE:  XXXXXX       *
    *DEPART FROM NORMAL:   XXXXXXXXX      DATE(S) OF MINIMUM:   XX XX XX     *
    *                                                                       *
    *NUM DAYS MAX 32 AND BELOW: XXXXX     NUM DAYS MIN 32 AND BELOW: XXXXX   *
    *NUM DAYS MAX 90 AND ABOVE: XXXXX     NUM DAYS MIN 0  AND BELOW: XXXXX   *
    *                                                                       *
    *HEATING DEGREE DAYS                  COOLING DEGREE DAYS               *
    *MONTHLY TOTAL:           XXXXXXXX    MONTHLY TOTAL:         XXXXXXXX    *
    *DEPART FROM NORMAL:      XXXXXXXXX   DEPART FROM NORMAL:    XXXXXXXXX   *
    *SEASON (JUL 1 - JUN 30): XXXXXXXXX   SEASON (JAN 1 - DEC 31): XXXXXXXXX *
    *DEPART FROM NORMAL:      XXXXXXXXX   DEPART FROM NORMAL:    XXXXXXXXX   *
    *                                                    MONTHLY DATA    *
     *                                                   +)))))0)))))0)))))1
    *                                                    *     *    *PREV *
     *                                                   /)))))3)))))3)))))1
    *                                                    *     *    *ABORT*
     *                                                   /)))))3)))))3)))))1
    *                                                    *EXIT *BACK *NEXT *
      .)))))))))))))))))))))))))))))))))))))))))))))))))))))))2)))))2)))))2)))))-
```

Figure 3-39. REVUE-MONTH-CHANG (Page 1 Data Field Locations)
(Observer User Level Only)

```
12:00:07 02/02/98 1300Z                                              STERLING #4
   +)))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))),
*                       MONTHLY PRECIPITATION SUMMARY -  JAN98                   *
*                                                                                *
*                                  PRECIPITATION           SNOW                  *
*MONTHLY TOTAL:                    XXXXXXXXX               XXXXXXXXX             *
*DEPARTURE FROM NORMAL:            XXXXXXXXX                                     *
*GREATEST IN 24 HOURS:             XXXXXXXXX               XXXXXXXXX             *
*DATE(S) OF OCCURRENCE:            XX-XX XX-XX XX-XX        XX-XX XX-XX XX-XX     *
*GREATEST DEPTH ON GROUND:                                 XXXXXXXXX             *
*DATE(S) OF OCCURRENCE:                                    XX  XX  XX            *
*                                                                                *
*NUMBER OF DAYS WITH PRECIPITATION  .01 INCH OR MORE: XXXXX                      *
*NUMBER OF DAYS WITH PRECIPITATION  .10 INCH OR MORE: XXXXX                      *
*NUMBER OF DAYS WITH PRECIPITATION  .50 INCH OR MORE: XXXXX                      *
*NUMBER OF DAYS WITH PRECIPITATION 1.00 INCH OR MORE: XXXXX                      *
*                                                             MONTHLY DATA   *
 *SHORT DURATION PRECIPITATION AMOUNTS WITH DATE/TIME TAGS:    +)))))0)))))0)))))1
*5  XXXXXXXXX XXXXXX 30 XXXXXXXXX XXXXXX 100 XXXXXXXXX XXXXXX*    *    *PREV *
 *10 XXXXXXXXX XXXXXX 45 XXXXXXXXX XXXXXX 120 XXXXXXXXX XXXXX/)))))3)))))3)))))1
*15 XXXXXXXXX XXXXXX 60 XXXXXXXXX XXXXXX 150 XXXXXXXXX XXXXXX*    *    *ABORT*
 *20 XXXXXXXXX XXXXXX 80 XXXXXXXXX XXXXXX 180 XXXXXXXXX XXXXX/)))))3)))))3)))))1
*                                                             *EXIT *BACK *NEXT *
   .)))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))2)))))2)))))2)))))-
```

Figure 3-40. REVUE-MONTH-CHANG (Page 2 Data Field Locations)
(Observer User Level Only)

```
12:00:21 02/02/98 1300Z                                              STERLING #4
   +)))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))),
*                         MONTHLY SUMMARY -  JAN98                               *
*                                                                                *
*NUMBER OF CLEAR DAYS:          XXXXX                                            *
*NUMBER OF PARTLY CLOUDY DAYS:  XXXXX                                            *
*NUMBER OF CLOUDY DAYS:         XXXXX                                            *
*                                                                                *
*TOTAL SUNSHINE (HOURS):        N                                               *
*PERCENT POSSIBLE SUNSHINE:     N                                               *
*                                                                                *
*AVERAGE STATION PRESSURE:      XXXXXXXXX                                        *
*                                                                                *
*HIGHEST SEA LEVEL PRESSURE:    XXXXXXXXX     X                                  *
*DATE OF OCCURRENCE:            XX                                               *
*TIME OF OCCURRENCE:            XXXX                                             *
*                                                             MONTHLY DATA   *
 *LOWEST SEA LEVEL PRESSURE:     XXXXXXXXX     X               +)))))0)))))0)))))1
*DATE OF OCCURRENCE:            XX                            *    *    *PREV *
 *TIME OF OCCURRENCE:            XXXX                          /)))))3)))))3)))))1
*                                                            *    *    *ABORT*
 *AVERAGE SEA LEVEL PRESSURE:    XXXXXXXXX                    /)))))3)))))3)))))1
*                                                             *EXIT *BACK *NEXT *
   .)))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))2)))))2)))))2)))))-
```

Figure 3-41. REVUE-MONTH-CHANG (Page 3 Data Field Locations)
(Observer User Level Only)

3.2.5.3.1   *Initialization.*   The 1-Minute Screen must be displayed on the OID to access the REVUE-MONTH function.

3.2.5.3.2   *Execution Options.*   After selecting the REVUE function key from the 1-Minute Screen and the MONTH function key from the REVIEW screen, the user is presented with the following REVUE-MONTH functions that may be selected:

PRINT -   Causes the currently displayed monthly summary page to be printed.

PAGE -   Pages between the three display screens (temperature, precipitation, and miscellaneous data) that make up the monthly summary product.

(MONTH)-   The function template is labeled with the name of the other month for which the summary product is available in the archive file. Possible labels are: JAN, FEB, MAR, APR, MAY, JUNE, JULY, AUG, SEP, OCT, NOV, and DEC. The template will initially have the name of the previous month (not the current month).

CHANG -   Allows observer level users to make changes and additions to elements of the currently displayed monthly summary page. Changes are not permitted to the current monthly summary product. Monthly summaries can only be changed for a 96-hour period after their completion.

EXIT -   Returns the user to the 1-Minute Screen.

BACK -   Returns the user to the REVIEW menu screen.

3.2.5.3.3   *User Inputs.*   User inputs to the REVUE-MONTH function are:

       If CHANG is available and selected, the observer may enter new data for elements on the currently displayed monthly summary page. Error checking for all data entry is provided.

3.2.5.3.4   *System Inputs.*   System inputs for the REVUE-MONTH function include:

     1.   The archive file of the monthly summary product is maintained for the previous month plus the summary calculated so far for the current month. The presence of an "M" in any field indicates the data are missing. An "N" indicates that these data are beyond the capabilities of the system at the site. The presence of a "T" in precipitation or snow fields indicates a trace amount.

     2.   User level of current signed-on user associated with the OID.

     3.   Current Date.

3.2.5.3.5   *Execution.*   The procedures for executing the REVUE-MONTH function are:

     1.   When the REVUE-MONTH function is selected, the MONTHLY DATA screen is displayed, along with the first page of data, i.e., temperature data, calculated so far for the current month from the archive file.

     2.   The PRINT function can be selected at any time to cause the currently displayed monthly summary page to be printed.

     3.   Upon initial selection of the REVUE-MONTH function, the first of three display pages

containing data for the current month is presented. The (MONTH) function template is labeled with the name of the previous month for which archive data are available. If the current month is February, then this template would be labeled JAN. Selecting the (MONTH) function causes the corresponding page of the monthly summary product for the previous month to be presented. Also, the label for the (MONTH) function template will change to indicate the name of the current month. The (MONTH) function is used to toggle between the two months for which archive data are available.

The user can page through the three pages of the monthly summary product (figures 3-36, 3-37, and 3-38) for the selected month by using the PAGE function. The PAGE function works in a circular fashion so that the first page will be presented if the third page is currently displayed and the PAGE function is selected.

4.   Changing automatically-generated data and the capability to manually enter additional data are only possible for a 96-hour period after the end of the month, i.e., no changes are allowed to the current monthly summary being compiled. Changes are accomplished by using the CHANG function.

5.   The CHANG function, available to observer level users only, will display a CHANG function template that is used to select fields in the monthly summary product for change by using PREV and NEXT functions. The ABORT function will cause all changes made in the current CHANG session, even if several pages were changed, to be abandoned and the screen will refresh itself with the former data. The user is returned to the 1-Minute Screen. The BACK function will update the monthly summary product archive with all changes made to each page in the current CHANG session and return the user to the REVUE-MONTH function template.

6.   The following monthly summary product data items are not automatically generated by the sensor processing algorithms and may be completed manually by the observer level user:

MONTHLY TOTAL (SNOW)
GREATEST IN 24 HOURS (SNOW)
DATE(S) OF OCCURRENCE for GREATEST IN 24 HOURS (SNOW)
GREATEST DEPTH ON GROUND (SNOW)
DATE(S) OF OCCURRENCE (SNOW)
NUMBER OF CLEAR DAYS
NUMBER OF PARTLY CLOUDY DAYS
NUMBER OF CLOUDY DAYS
TOTAL SUNSHINE (HOURS)
PERCENT POSSIBLE SUNSHINE

3.2.5.3.6 *Termination.* The REVUE-MONTH-EXIT function terminates the REVUE-MONTH function and returns the user to the 1-Minute Screen.

3.2.5.3.7 *Restart.* Selecting REVUE from the 1-Minute Screen and then selecting MONTH from the REVIEW function template will restart the REVUE-MONTH function.

3.2.5.3.8 *Outputs.* Outputs of the REVUE-MONTH function are:

1.   Hard copy prints of the monthly summary product pages selected by the user.
2.   Manually-entered and changes to automatically-generated monthly summary data are stored in the monthly summary product archive file.

3.2.5.3.9 *Interrelationship.* The REVUE-MONTH function has an interrelationship with the REVUE-RPT-MSM function. The monthly summary product is used to encode the Monthly Summary Message (MSM). Since it is not possible to edit the MSM directly, any changes to data in the monthly summary product, which are encoded in the MSM, will be encoded in a corrected MSM. The MONTH function serves as a means to review and print data that have been archived over the course of normal ASOS system operations. It also serves as a means for the observer to correct or add data to the monthly summary product for 96 hours following its completion.

Data quality checks associated with the CHANG function ensure that the correct type of input (numeric, text, or mixed) is provided for each data element in the monthly summary product. The observer is responsible for ensuring that all changes made are valid.

3.2.5.4 **REVUE-SITE Function.** The REVUE-SITE function provides access to the site-specific data stored in the ACU non-volatile memory of ASOS. See figure 3-42 for the REVUE-SITE screen. The REVUE-SITE help screen may be accessed by pressing the HELP key on the function keypad or the zero key (0) on the auxiliary keypad. Any ASOS user may review and print the site-specific data without being signed on to the system. Users signed on the system at the air traffic control specialist level do not have access to the REVUE-SITE function. Only users signed on at the technician or system manager levels are permitted to change selected elements of the site-specific data. The site-specific data available for review and printing by all ASOS users (except air traffic control specialists) includes:

> Site Physical Characteristics
> Site Configuration
> Site SPECI, Local, and SHEF Alert Criteria
> Site Climatological Normals
> Site Pressure Reduction Ratios or Constant
> Site Software Version

3.2.5.4.1 *Initialization.* The 1-Minute Screen must be displayed on the OID to access the REVUE-SITE functions.

3.2.5.4.2 *Execution Options.* After selecting the REVUE function from the 1-Minute Screen and the SITE function from the REVIEW menu screen, the user is presented with the following REVIEW SITE functions that may be selected:

PHYS -   The REVUE-SITE-PHYS function provides access to the site-specific physical characteristics data. See figure 3-43 for the REVUE-SITE-PHYS screen. The REVUE-SITE-PHYS help screen may be accessed by pressing the HELP key on the function keypad or the zero key (0) on the auxiliary keypad.

> NOTES: (1) All fields must have a valid entry before exiting the REVUE-SITE-PHYS screen.
>
> (2) The STATION IDENTIFIER field will accept a maximum of 5 characters.
>
> (3) The ELEVATION field will not accept blanks as an entry.
>
> (4)   The LATITUDE and LONGITUDE fields are entered in degrees and minutes, e.g., 38:58N is 38 degrees and 58 minutes. Please note that degrees and minutes may be separated by either a decimal point (.) or a colon (:).

(5) For the Daily Summary Message (DSM) and Monthly Summary Message (MSM)GENERATED fields it is possible to answer "YES" or "NO." If "NO" is answered, then the respective archive file (REVUE-RPT-DSM or MSM) will be blank. IF "YES" is answered, then messages will be generated and archived. No DSM or MSM will be transmitted if XMIT TIME entries are not provided.

(6) Only the system manager may change the commissioned field.

PRINT -   Causes the displayed site physical characteristics page to be printed.

CHANG -   Allows technician or system manager level users to make changes to elements of the site physical characteristics page. No changes are allowed with an observer or air traffic control specialist signed on.

           PREV -   Allows the user to move to the previous field.

           ABORT -   Disregards all changes made to the REVUE-SITE-PHYS page and returns the user to the 1-Minute Screen.

           SEQN -   Allows the user to sequence through all allowable entries for the selected field.

           EXIT -   Saves changes and returns the user to the 1-Minute Screen.

           BACK -   Saves changes and returns the user to the REVUE-SITE-PHYS screen.

           NEXT -   Allows the user to move to the next field.

EXIT -   Returns the user to the 1-Minute Screen.

BACK -   Returns the user to the REVUE-SITE function template.

```
12:00:39 01/28/98 1300Z                                                    STERLING #4
    +))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))),
 *                                                                                    *
 *                                                                                    *
 *                                                                                    *
 *                                                                                    *
 *                                                                                    *
 *                                                                                    *
 *                                                                                    *
 *                                                                                    *
 *                                                                                    *
 *                                                                                    *
 *                                                                                    *
 *                                                                                    *
 *                                                                                    *
 *                                                                                    *
 *                                                                                    *
 *                                                          SITE        *
  *                                                   +)))))0)))))0)))))1
 *                                                   *PHYS *CONFG*CRIT *
  *                                                   /)))))3)))))3)))))1
 *                                                   *NORML*VERSN*PRESS*
  *                                                   /)))))3)))))3)))))1
 *                                                   *EXIT *BACK *     *
    .)))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))2)))))2)))))2)))))-
```
Figure 3-42. REVUE-SITE
(All User Levels Except Air Traffic Control Specialist)

```
 12:00:59 01/28/98 1300Z                                                    STERLING #4
    +))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))),
 *STATION                                                                             *
 *   NAME:                     STERLING #4                                            *
 *   IDENTIFIER:               ST2            DATE:                   01/28/98     *
 *   COMMISSIONED:             COMM           TIME:                   13:00:44 UTC*
 *   ATTENDED:                 YES            UTC TO LST OFFSET:      -1           *
 *   OPEN 24 HOURS:            YES            METAR SWITCH DATE:      07/01/96 UTC*
 *   OPENING TIME:                            METAR SWITCH TIME:      07:45:00 UTC*
 *   CLOSING TIME:                            DSM GENERATED:          YES          *
 *   ELEVATION:                277   FEET     PRIMARY DSM XMIT TIME:        UTC*
 *                                            INTERMED DSM XMIT TIMES:       UTC*
 *FIELD ELEVATION:             260   FEET                                      UTC*
 *PRESSURE SENSOR ELEVATION:   283   FEET                                      UTC*
 *                                            MSM GENERATED:          YES       *
 *OBS HOURLY REPORT TIME:      50             MSM XMIT TIME:                UTC*
 *OBS EDIT TIME:               5:00                          PHYSICAL     *
  *OBS HOURLY TRANSMIT TIME:   55:00                         +)))))0)))))0)))))1
 *SHEF HOURLY TRANSMIT TIME:   0                             *PRINT*     *     *
  *LATITUDE:                   38:58N                         /)))))3)))))3)))))1
 *LONGITUDE:                   77:29W                        *    *CHANG*     *
  *MAG DECLINATION:            9W                             /)))))3)))))3)))))1
 *                                                           *EXIT *BACK *     *
    .)))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))2)))))2)))))2)))))-
```
Figure 3-43. REVUE-SITE-PHYS
(All User Levels Except Air Traffic Control Specialist)
(Technician and System Manager User Levels Can Make Changes To Information)

CONFG -   The REVUE-SITE-CONFG function provides access to the site-specific configuration data. See
             figure 3-44 for the REVUE-SITE-CONFG screen. The help screen may be accessed by pressing
             the HELP key on the function keypad or the zero key (0) on the auxiliary keypad.

HDWE -   The REVUE-SITE-CONFG-HDWE function provides access to the site-specific hardware configuration data. See figure 3-45 for the REVUE-SITE-CONFG-HDWE screen. The help screen may be accessed by pressing the HELP key on the function keypad or the zero key (0) on the auxiliary keypad.

PRINT -   Causes the currently displayed site configuration hardware page to be printed.

CHANG -   Allows technician or system manager level users to make changes to elements of the currently displayed site configuration hardware page.

NOTE: The DCP status can not be changed to disabled if sensors are configured for that DCP on the CONFG-SENSR screen. See figure 3-48. The following error message would appear, "DCP CANNOT BE DISABLED, SENSORS MUST BE DECONFIGURED." The Voice Port is selectable between OID-1 LOCAL (Port 3A) and OID-2 SECONDARY (Port 3B).

PREV -   Allows the user to move to the previous field.

SEQN -   Allows the user to sequence through all allowable entries for the selected field.

ABORT -   Disregards all changes made to the REVUE-SITE-CONFG-HDWE page and returns the user to the 1-Minute Screen.

EXIT -   Saves changes and returns the user to the 1-Minute Screen.

BACK -   Saves changes and returns the user to the REVUE-SITE-CONFG-HDWE screen.

NEXT -   Allows the user to move to the next field.

EXIT -   Saves changes and returns the user to the 1-Minute Screen.

BACK -   Saves changes and returns the user to the REVUE-SITE-CONFG function template.

```
12:04:54 01/28/98 1304Z                                                    STERLING #4
     +))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))),
   *                                                                                      *
   *                                                                                      *
   *                                                                                      *
   *                                                                                      *
   *                                                                                      *
   *                                                                                      *
   *                                                                                      *
   *                                                                                      *
   *                                                                                      *
   *                                                                                      *
   *                                                                                      *
   *                                                                                      *
   *                                                                                      *
   *                                                                                      *
   *                                                                           CONFIG     *
    *                                                                 +)))))0)))))0)))))1
   *                                                                 *HDWE *EXTRN*        *
    *                                                                /)))))3)))))3)))))1
   *                                                                 *DEFIN*SENSR*COMMS*
    *                                                                /)))))3)))))3)))))1
   *                                                                 *EXIT *BACK *        *
     .)))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))2)))))2)))))2)))))-
```
Figure 3-44. REVUE-SITE-CONFG
(All User Levels Except Air Traffic Control Specialist)

```
12:01:29 01/28/98 1301Z                                                    STERLING #4
     +))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))),
   *                                                                                      *
   *                    DCP #1           DCP #2           DCP #3                           *
   *       ACU          ENABLED          ENABLED          DISABLED                         *
   *                                                                                      *
   *     QUANTITIES        QUANTITIES        QUANTITIES                                    *
   *                                                                                      *
   * CPU          2     CPU      2     CPU      1                                          *
   *                                                                                      *
   * SIO          8     SIO      3     SIO      1                                          *
   *                                                                                      *
   * UPS          1     UPS      1     UPS      0                                          *
   *                                                                                      *
   * VIDEO CARD   0     A TO D   1     A TO D   1                                          *
   *                                                                                      *
   * VOICE PORT   OID-2 SECONDARY                            HARDWARE CONFIG *
    *                                                                 +)))))0)))))0)))))1
   *                                                                 *PRINT*       *        *
    *                                                                /)))))3)))))3)))))1
   *                                                                 *      *CHANG*        *
    *                                                                /)))))3)))))3)))))1
   *                                                                 *EXIT *BACK *        *
     .)))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))2)))))2)))))2)))))-
```
Figure 3-45. REVUE-SITE-CONFG-HDWE
(All User Levels Except Air Traffic Control Specialist)
(Technician and System Manager User Levels Can Make Changes To Information)

EXTRN -   The REVUE-SITE-CONFG-EXTRN function provides access to the external
            communications configuration data. See figure 3-46 for the REVUE-SITE-CONFG-
            EXTRN screen. The help screen may be accessed by pressing the HELP key on the
            function keypad or the zero key (0) on the auxiliary keypad. Only the technician and
            system manager levels can access this function.

NOTE: Changing the AOMC phone number on the External screen does not cause an AutoUpload to theAOMC.ASOS automatically inserts the three character "PRODUCT ID(NNN):" no user is allowed to change it.

PRINT -   Causes the displayed site configuration external communications page to be printed.

CHANG -   Allows technician or system manager level users to make changes to the site configuration external communications page.

PREV -   Allows the user to move to the previous field.

SEQN -   Allows the user to sequence through all allowable entries for the selected field.

ABORT -   Disregards all changes made to the REVUE-SITE-CONFG-EXTRN page and returns the user to the 1-Minute Screen.

EXIT -   Saves changes and returns the user to the 1-Minute Screen.

BACK -   Saves changes and returns the user to the REVUE-SITE-CONFG-EXTRN screen.

NEXT -   Allows the user to move to the next field.

EXIT -   Returns the user to the 1-Minute Screen.

BACK -   Returns the user to the REVUE-SITE-CONFG function template.

```
12:05:15 01/28/98 1305Z                                          STERLING #4
    +)))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))),
*   STATION ID (XXX):     ST2              WMO IDENTIFIER:      KST2       *
*   FORECAST OFFICE (CCC): ITB             PRODUCT ID (NNN):    MTR        *
*   METAR/SPECI ADDRESS:   ALL             15-MIN SHEF ID (NNN): RRX       *
*   DSM/MSM ADDRESS:       000/000         1-HOUR SHEF ID (NNN): RRY       *
*   15-MIN SHEF ADDRESS:                   DSM/MSM PRODUCT ID:  DSM / MSM  *
*   1-HOUR SHEF ADDRESS:                   ADAS:                           *
*   STATION IDS/PHONE NUMBERS              ASOS ADDRESS:        100        *
*     STATION 1:                           ADAS TIMEOUT (SEC): 360         *
*                         XXXXXXXXXXX  TCCC:                               *
*     STATION 2:                           TCCC ADDRESS:        100        *
*                         XXXXXXXXXXX  AOMC:                               *
*     STATION 3:                           PRIMARY PHONE NO:   XXXXXXXXXXX  *
*                         XXXXXXXXXXX  SECONDARY PHONE NO: XXXXXXXXXXX  *
*   MESSAGE FORMAT TYPE:   I               AOMC 1200 BAUD:     NO          *
*   PARITY SELECTION:      NONE                               EXTERNAL     *
 *  REPLY REQUEST:         NO                          +)))))0)))))0)))))1
*   BUSY ATTEMPT TIME:    1                           *PRINT*     *     *
 *  SEND REPLY TIME(SECS): 001                         /)))))3)))))3)))))1
*   RECV REPLY TIME(MINS): 2                          *   *CHANG*     *
 *  BACKUP FOR ADAS:       NO                          /)))))3)))))3)))))1
*                                                     *EXIT *BACK *     *
    .)))))))))))))))))))))))))))))))))))))))))))))))))))))))2)))))2)))))2)))))-
```

Figure 3-46. REVUE-SITE-CONFG-EXTRN
(Technician and System Manager User Levels Only)

DEFIN -   The REVUE-SITE-CONFG-DEFIN function specifies the type and vendor of each sensor used at the site. See figure 3-47 for the REVUE-SITE-CONFG-DEFIN screen. The help screen may be accessed by pressing the HELP key on the function keypad or the zero key (0) on the auxiliary keypad.

PRINT -   Causes the displayed site configuration define page to be printed.

CHANG -   Allows technician or system manager level users to make changes to elements.

PREV -   Allows the user to move to the previous field.

SEQN -   Allows the user to sequence through all allowable entries for the selected field.

ABORT -   Disregards all changes made to the DEFINE CONFIG page and returns the user to the 1-Minute Screen.

EXIT -   Saves changes and returns the user to the 1-Minute Screen.

BACK -   Saves changes and returns the user to the REVUE-SITE-CONFG-DEFIN screen.

NEXT -   Allows the user to move to the next field.

EXIT -   Returns the user to the 1-Minute Screen.

BACK -   Returns the user to the REVUE-SITE-CONFG function template.

```
12:01:48 01/28/98 1301Z                                          STERLING #4
    +))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))),
    *                          DEFINE CONFIGURATION                             *
    *                                                                           *
    *   SENSORS                                 HARDWARE                         *
    * CEILOMETER       POLLED                ACU MEMORY      1 MEGABYTE          *
    * VISIBILITY       BELFORT ASOS          DCP MEMORY      1 MEGABYTE          *
    * TEMP/DEW POINT   1088                  RS 232 MODEM    UDS                 *
    * PRESENT WX       LEDWI                 SYNCH MODEM     UDS                 *
    * WIND             BELFORT ASOS          ACU/DCP COMM    PHASE II RADIO      *
    * PRESSURE         SETRA MODEL 470       RT CLOCK        VIDEO CARD          *
    * FREEZING RAIN    PHASE II              ACU POWER SUP   ASTEC               *
    * SNOW DEPTH       PHASE II              DCP POWER SUP   R.O. ASSOC.         *
    * HAIL             PHASE II              ACU UPS         SOLA                *
    * SUNSHINE         PHASE II              DCP UPS         SOLA                *
    * LIQUID PRECIP    BELFORT ASOS          GTA RADIO       MOTOROLA VT-200     *
    * THUNDERSTORM     LLP TSS 924                          DEFINE CONFIG     *
     *                                                    +)))))0)))))0)))))1
    *                                                    *PRINT*     *     *
     *                                                   /)))))3)))))3)))))1
    *                                                    *    *CHANG*     *
     *                                                   /)))))3)))))3)))))1
    *                                                    *EXIT *BACK *     *
    .))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))2)))))2)))))2)))))-
```

Figure 3-47. REVUE-SITE-CONFG-DEFIN
(All User Levels Except Air Traffic Control Specialist)
(Technician and System Manager User Levels Can Make Changes To Information)

SENSR -   The REVUE-SITE-CONFG-SENSR function provides access to the site-specific sensor configuration data as shown on the CONFIGURATION screen. In ASOS mode, three slots are available for local sensors. In Single Cabinet mode, thirteen slots are available for local sensors. See figure 3-48 for the REVUE-SITE-CONFG-SENSR screen. The help screen may be accessed by pressing the HELP key on the function keypad or the zero key (0) on the auxiliary keypad.

    PRINT -   Causes the currently displayed site sensor configuration page to be printed.

    ALGOR -   The REVUE-SITE-CONFG-SENSR-ALGOR function provides access to sky and visibility sensor algorithm characteristics. See figure 3-49.

        PRINT -   Causes the displayed site sensor algorithm characteristics page to be printed.

        CHANG -   Allows technician or system manager level users to make changes to the site sensor algorithm characteristics page. The elevation field will not accept blanks as an entry.

            PREV -   Allows the user to move to the previous field.

            ABORT -   Disregards all changes and returns the user to the 1-Minute Screen.

            EXIT -   Saves changes and returns the user to the 1-Minute Screen.

            BACK -   Saves changes and returns the user to the REVUE-SITE-CONFG-SENSR-ALGOR screen.

            NEXT -   Allows the user to move to the next field.

        EXIT -   Returns the user to the 1-Minute Screen.

        BACK -   Returns the user to the REVUE-SITE-CONFG-SENSR function template.

    CHANG -   Allows technician or system manager level users to make changes to elements of the displayed configuration page

        PREV -   Allows the user to move to the previous field.

        ABORT -   Disregards all changes made to the REVUE-SITE-CONFG-SENSR page and returns the user to the 1-Minute Screen.

        EXIT -   Saves changes and returns the user to the 1-Minute Screen.

        BACK -   Saves changes and returns the user to the REVUE-SITE-CONFG-SENSR function template.

        NEXT -   Allows the user to move to the next field.

EXIT -   Returns the user to the 1-Minute Screen.

BACK -   Returns the user to the REVUE-SITE-CONFG function template.

```
12:02:09 01/28/98 1302Z                                           STERLING #4
    +)))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))),
*                                                                             *
*        SIO #1     SIO #2       SIO #3    SIO #4       SIO #5                 *
*  PORTS 2  3  4    1  2  3  4   1  3  4   1  2  3  4   1  2                   *
*                                                                             *
* DCP #1 C1 FR PW  TB WS TD V1  TS ** **                                      *
*                                                                             *
* DCP #2 C2 V2 **                                                             *
*                                                                             *
* DCP #3                                                                      *
*                                                                             *
*                                                                             *
* LOCAL SENSORS                                                               *
*                                                                             *
* **  **  **                                                                  *
*                                                          CONFIGURATION  *
 * PRESSURE SENSORS                                        +)))))0)))))0)))))1
*                                                          *PRINT*     *     *
 * P1  P2  P3                                              /)))))3)))))3)))))1
*                                                          *ALGOR*CHANG*     *
 *                                                         /)))))3)))))3)))))1
*                                                          *EXIT *BACK *     *
    .)))))))))))))))))))))))))))))))))))))))))))))))))))))))))2)))))2)))))2)))))-
```
Figure 3-48. REVUE-SITE-CONFG-SENSR (ASOS Mode)
(All User Levels Except Air Traffic Control Specialist)
(Technician and System Manager User Levels Can Make Changes To Information)

```
12:02:23 01/28/98 1302Z                                           STERLING #4
    +)))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))),
*                                                                             *
*SKY ALGORITHM:                                                               *
*PRIM SENSOR #: 1              MET DISC SENSOR #: 2                            *
*  ELEVATION: 277                ELEVATION: 277                               *
*                                LOCATION:  RWY9L                             *
*                                                                             *
*                                                                             *
*VISIBILITY ALGORITHM:                                                        *
*PRIM SENSOR #: 1              MET DISC SENSOR #: 2                            *
*                                LOCATION:  SW                                *
*                                                                             *
*                                                                             *
*                                                                             *
*                                                                             *
*                                                          ALGORITHM     *
 *                                                         +)))))0)))))0)))))1
*                                                          *PRINT*     *     *
 *                                                         /)))))3)))))3)))))1
*                                                          *     *CHANG*     *
 *                                                         /)))))3)))))3)))))1
*                                                          *EXIT *BACK *     *
    .)))))))))))))))))))))))))))))))))))))))))))))))))))))))))2)))))2)))))2)))))-
```
Figure 3-49. REVUE-SITE-CONFG-SENSR-ALGOR
(All User Levels Except Air Traffic Control Specialist)
(Technician and System Manager User Levels Can Make Changes To Information)

COMMS -   The REVUE-SITE-CONFG-COMMS function provides access to the configuration and parameter data for each of the serial input/output communication ports as shown on the ACU SERIAL COMMS screen. See figure 3-50. The help screen may be accessed by pressing the HELP key on the function keypad or the zero key (0) on the auxiliary keypad.

The ports on the ACU SERIAL COMMS screen are available as determined by the number of serial input/outputs (SIOs) configured for the ACU on the HARDWARE CONFIG screen (figure 3-45). The specific port for AWOS Data Acquisition System (ADAS) is port 1-1.

PRINT -   Causes the displayed ACU SERIAL COMMS screen to be printed.

PREV -   Allows the user to move to the previous field.

SIO -   Allows the user to move four lines forward.

CHANG -   Allows technician or system manager level users to make changes to elements of the ACU SERIAL COMMS screen.

NOTES: (1) STATUS is selectable between Disabled and Enabled.

(2) BAUD RATE is selectable between 50, 75, 150, 300, 600, 200, 1800, 2400, 3600, 4800, 7200, 9600, 19200, 28800, and 38400.

(3) PARITY SELECT is selectable between Even, Odd, and None.

(4) BITS/CHAR is selectable between 5, 6, 7, and 8.

(5) STOP BITS is selectable between 1, 2, and 1.5.

(6) HANDSHAKE is selectable between Half Duplex, Full Duplex, RTS/CTS, Manual RTS, Special, XON/XOFF, None, and Synchronous.

(7) CONNECTION is selectable between Phone, Leased, Hard-wire, Radio, and Line-driver.

(8)   MODEM SLOT is selectable between blank, and 1 - 16.

(9) DIAL TYPE is selectable between TONE and PULSE.

PREV -   Allows the user to move to the previous field.

SEQN -   Allows the user to sequence through all allowable entries for the selected field.

ABORT -   Disregards all changes made to the page and returns the user to

the 1-Minute Screen.

EXIT -   Saves changes and returns the user to the 1-Minute Screen.

BACK -   Saves changes and returns the user to REVUE-SITE-CONFG-
                COMMS page.

NEXT -   Allows the user to move to the next field.

EXIT -   Returns the user to the 1-Minute Screen.

BACK -   Returns the user to the REVUE-SITE-CONFG menu screen.

NEXT -   Allows the user to move to the next field.

EXIT -   Returns the user to the 1-Minute Screen.

BACK -   Returns the user to the REVUE-SITE menu screen.

```
 12:03:14 01/28/98 1303Z                                               STERLING #4
     +)))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))),
*PORT MOD FUNCTION         PORT MOD FUNCTION         PORT MOD FUNCTION           *
* 1-1                       4-1    UPS                7-1    RVR                  *
*   2                        2     PRESSURE #3          2    LOCAL SENSOR #2      *
*   3                        3     AFOS HW SPARE        3    LOCAL SENSOR #3      *
*   4                        4 1   AFOS PHONE           4                        *
* 2-1     ACU-DCP A         5-1    LOCAL SENSOR #4     8-1                        *
*   2     PRESSURE #1         2    OID-3 SECONDARY      2                        *
*   3 4   OID-2 SECONDARY     3    PRINTER              3                        *
*   4     VOICE               4                         4                        *
* 3-1     ACU-DCP B         6-1                                                  *
*   2     PRESSURE #2         2                                                  *
*   3 5   OID-5 USER #2       3                                                  *
*   4     OID-1 LOCAL         4                                                  *
*              FUNCTION   ACU-DCP A                                              *
* STATUS          ENABLED   HANDSHAKE   RTS/CTS                ACU SERIAL COMMS  *
 * BAUD RATE        2400     CONNECTION   RADIO                +)))))0)))))0)))))1
* PARITY SELECT   NONE                                         *PRINT*     *PREV *
 * BITS/CHAR        8                                          /)))))3)))))3)))))1
* STOP BITS        1                                          *SIO  *CHANG*      *
 *                                                             /)))))3)))))3)))))1
*                                                             *EXIT *BACK *NEXT  *
    .)))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))2)))))2)))))2)))))-
```

Figure 3-50. REVUE-SITE-CONFG-COMMS
(All User Levels Except Air Traffic Control Specialist)
(Technician and System Manager User Levels Can Make Changes To Information)

CRIT -   The REVUE-SITE-CRIT function provides access to the site-specific criteria that defines the
            conditions for automatically generating SPECI reports, local alerts, and SHEF messages. See
            figures 3-51 through 3-53 for the REVUE-SITE-CRIT screens. The help screen may be accessed
            by pressing the HELP key on the function keypad or the zero key (0) on the auxiliary keypad.

PRINT -   Causes the displayed site criteria page to be printed.

PAGE -   Pages through the three display screens that make up the site criteria data in a circular
            fashion. These three pages are Criteria for Special Alerts, Criteria for Local Alerts, and

Criteria for SHEF Alerts. Figures 3-51 through 3-53 show the three display page formats.

CHANG -   Allows system manager level users to make changes to the site criteria pages.

PREV -   Allows the user to move to the previous field.

ABORT -   Disregards all changes made to the REVUE-SITE-CRIT pages and returns the user to the 1-Minute Screen.

EXIT -   Saves changes and returns the user to the 1-Minute Screen.

BACK -   Saves changes and returns the user to the REVUE-SITE-CRIT screen.

NEXT -   Allows the user to move to the next field.

EXIT -   Returns the user to the 1-Minute Screen.

BACK -   Returns the user to the REVUE-SITE function template.

```
12:07:04 01/28/98 1307Z                                             STERLING #4
   +))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))),
 *                                                                              *
 *CRITERIA FOR SPECIAL ALERTS                                                   *
 *                                                                              *
 *                                                                              *
 *   SKY CONDITION:                                                             *
 *                                                                              *
 *      CEILING AT OR BELOW        3000    1500    1000    500     FEET         *
 *      USER'S CEILING AT OR BELOW 200     0       0       0       0       0    *
 *                                                                              *
 *      LAYERS BELOW               1000    FEET                                 *
 *      USER'S LAYERS BELOW        0       0       0       0                    *
 *                                                                              *
 *   VISIBILITY:                   3       2       1       MILES                *
 *      USER'S VISIBILITY          3/4     1/2     1/4                          *
 *                                                             CRITERIA    *
  *   RVR:                         2400    FEET            +)))))0)))))0)))))1
 *                                                         *PRINT*PAGE *     *
  *                                                        /)))))3)))))3)))))1
 *                                                         *     *CHANG*     *
  *                                                        /)))))3)))))3)))))1
 *                                                         *EXIT *BACK *     *
  .)))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))2)))))2)))))2)))))-
```
Figure 3-51. REVUE-SITE-CRIT (Page 1 - SPECIAL ALERTS)
(All User Levels Except Air Traffic Control Specialist)
(System Manager User Level Can Make Changes To Information)

```
12:07:14 01/28/98 1307Z                                              STERLING #4
    +)))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))),
*                                                                               *
*CRITERIA FOR LOCAL ALERTS                                                      *
*                                                                               *
*                                                                               *
*   SKY CONDITION:                                                              *
*                                                                               *
*     CEILING AT OR BELOW   0     0     0     0     0     0     FEET            *
*                                                                               *
*   VISIBILITY:  3/4     1/2     1/4     7                       MILES          *
*                                                                               *
*                                                                               *
*                                                                               *
*                                                                               *
*                                                                               *
*                                                            CRITERIA          *
 *                                                           +)))))0)))))0)))))1
*                                                           *PRINT*PAGE *      *
 *                                                           /)))))3)))))3)))))1
*                                                           *     *CHANG*      *
 *                                                           /)))))3)))))3)))))1
*                                                           *EXIT *BACK *      *
    .))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))2)))))2)))))2)))))-
```
Figure 3-52. REVUE-SITE-CRIT (Page 2 - LOCAL ALERTS)
(All User Levels Except Air Traffic Control Specialist)
(System Manager User Level Can Make Changes To Information)

```
12:07:21 01/28/98 1307Z                                              STERLING #4
    +)))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))),
*                                                                               *
*CRITERIA FOR SHEF ALERTS                                                       *
*                                                                               *
*   15-MINUTE ONSET THRESHOLD:                   0.07 INCHES                    *
*                                                                               *
*   15-MINUTE TERMINATION THRESHOLD:             0.01 INCHES                    *
*                                                                               *
*                                                                               *
*                                                                               *
*                                                                               *
*                                                                               *
*                                                                               *
*                                                                               *
*                                                                               *
*                                                            CRITERIA          *
 *                                                           +)))))0)))))0)))))1
*                                                           *PRINT*PAGE *      *
 *                                                           /)))))3)))))3)))))1
*                                                           *     *CHANG*      *
 *                                                           /)))))3)))))3)))))1
*                                                           *EXIT *BACK *      *
    .))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))2)))))2)))))2)))))-
```
Figure 3-53. REVUE-SITE-CRIT (Page 3 - SHEF ALERTS)
(All User Levels Except Air Traffic Control Specialist)
(System Manager User Level Can Make Changes To Information)

NORML -   The REVUE-SITE-NORML function provides access to the site-specific normals for temperature (minimum, maximum, average), minutes of sunshine, number of monthly normal heating degree days, number of monthly normal cooling degree days, monthly normal precipitation amount, season heating degree days, and season cooling degree days. Site normal data for 12 months are stored in the ACU non-volatile memory of ASOS. An "N" displayed in any of these fields indicates the normals are Not Available for the site. See figure 3-54 for an example of the REVUE-SITE-NORML screen. The help screen may be accessed by pressing the HELP key on the function keypad or the zero key (0) on the auxiliary keypad.

     PRINT -   Causes the displayed site normal page to be printed.

     PREV -   Allows the user to page through the monthly site normal data for previous months.

     EXIT -   Returns the user to the 1-Minute Screen.

     BACK -   Returns the user to the REVUE-SITE function template.

     NEXT -   Allows the user to page through monthly site normal data for future months.

```
12:08:01 01/28/98 1308Z                                              STERLING #4
    +)))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))),
*                              NORMALS FOR JANUARY                              *
*DAY TMIN   TMAX   TAVG SUN    DAY TMIN   TMAX   TAVG SUN    DAY TMIN   TMAX   TAVG SUN  *
*  1   23     42     32  570    11   21     40     31  580    21   21     40     30  594  *
*  2   23     42     32  571    12   21     40     31  581    22   21     40     30  596  *
*  3   22     41     32  571    13   21     40     31  582    23   21     40     30  598  *
*  4   22     41     32  572    14   21     40     31  583    24   21     40     30  599  *
*  5   22     41     32  573    15   21     40     31  585    25   21     40     30  601  *
*  6   22     41     31  574    16   21     40     31  586    26   21     40     30  603  *
*  7   22     41     31  575    17   21     40     31  588    27   21     40     31  605  *
*  8   22     41     31  576    18   21     40     31  589    28   21     40     31  607  *
*  9   22     41     31  577    19   21     40     30  591    29   21     40     31  609  *
* 10   22     41     31  578    20   21     40     30  592    30   21     40     31  611  *
*                                                            31   21     40     31  613  *
*                                            AVG/SUM: 21.4  40.4  30.9  18230*
*MONTHLY NORMAL HEATING DEG DAYS:   1057                        NORMALS      *
 *MONTHLY NORMAL COOLING DEG DAYS:   0                     +)))))0)))))0)))))1
*MONTHLY NORMAL PRECIP:       3.46                         *PRINT*      *PREV *
 *SEASON HEATING DEGREE DAYS: 2915                         /)))))3)))))3)))))1
*SEASON COOLING DEGREE DAYS: 0                             *      *     *      *
 *                                                         /)))))3)))))3)))))1
*                                                          *EXIT *BACK *NEXT *
    .)))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))2)))))2)))))2)))))-
```
Figure 3-54. REVUE-SITE-NORML
(All User Levels Except Air Traffic Control Specialist)

PRESS -   The REVUE-SITE-PRESS function provides access to the site-specific pressure reduction data stored in the ACU non-volatile memory of the ASOS. See figure 3-55 for the REVUE-SITE-PRESS screen. The help screen may be accessed by pressing the HELP key on the function keypad or the zero key (0) on the auxiliary keypad.

     PRINT -   Causes the displayed site pressure reduction ratio page to be printed.

     PAGE -   Pages through the 10 display screens that provide the site's pressure reduction ratios for temperatures from -70 to 129 degrees Fahrenheit.

     CHANG -   Allows system manager level users to make changes to the site's pressure reduction

ratios.

PREV -   Allows the user to move to the previous field.

ABORT -   Disregards all changes made and returns the user to the 1-Minute Screen.

EXIT -   Saves changes and returns the user to the 1-Minute Screen.

BACK -   Saves changes and returns the user to the REVUE-SITE-PRESS screen.

NEXT -   Allows the user to move to the next field.

EXIT -   Returns the user to the 1-Minute Screen.

BACK -   Returns the user to the REVUE-SITE function template.

```
12:10:57 01/28/98 1310Z                                                    STERLING #4
   +))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))),
*                        PRESSURE REDUCTION RATIO (R)                                 *
*                                                                                     *
*         TEMP    R      TEMP     R      TEMP     R      TEMP     R                    *
*                                                                                     *
*         30    1.0104   35    1.0103   40    1.0102   45    1.0102                    *
*                                                                                     *
*         31    1.0103   36    1.0103   41    1.0102   46    1.0102                    *
*                                                                                     *
*         32    1.0103   37    1.0103   42    1.0102   47    1.0101                    *
*                                                                                     *
*         33    1.0103   38    1.0103   43    1.0102   48    1.0101                    *
*                                                                                     *
*         34    1.0103   39    1.0102   44    1.0102   49    1.0101                    *
*                                                                                     *
*PRESSURE REDUCTION CONSTANT: 0.0000                                   PRESSURE    *
 *                                                               +)))))0)))))0)))))1
*                                                               *PRINT*PAGE *      *
 *                                                               /)))))3)))))3)))))1
*                                                               *     *CHANG*      *
 *                                                               /)))))3)))))3)))))1
*                                                               *EXIT *BACK *      *
   .)))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))2)))))2)))))2)))))-
```

Figure 3-55. REVUE-SITE-PRESS
(All User Levels Except Air Traffic Control Specialist)
(System Manager User Level Can Make Changes To Information)

VERSN -   The REVUE-SITE-VERSN function provides the current software version data for the DCP
            and the ACU. Only DCPs which are enabled are displayed. See figure 3-56 for the REVUE-
            SITE-VERSN screen. The help screen may be accessed by pressing the HELP key on the
            function keypad or the zero key (0) on the auxiliary keypad.

SW -   Provides access to software version information, consisting of version number and date. See
figure 3-57 for the REVUE-SITE-VERSN-SW screen. The help screen may   be ccessed by pressing
the HELP key on the function keypad or the zero key (0) on the auxiliary keypad.

PRINT -   Causes the site software version page to be printed.

EXIT -   Returns the user to the 1-Minute Screen.

BACK -   Returns the user to the REVUE-SITE-VERSN screen.

AOMC -   Provides access to AOMC communications information which consists of upload/download statuses and dates. See figure 3-58 for the REVUE-SITE-VERSN-AOMC screen. The help screen may be accessed by pressing the HELP key on the function keypad or the zero key (0) on the auxiliary keypad.

PRINT -   Causes the AOMC COMMS STATUS page to be printed.

UP-LD -   Allows the technician or system manager level users to schedule an upload on the current cursor line. Only completed data can be uploaded.

PREV -   Allows the technician or system manager level users to move to the previous field.

CNCL -   Allows the technician or system manager level users to cancel manually requested uploads and downloads.

DN-LD -   Allows the technician or system manager level users to schedule a download on the current cursor line. This is not allowed when an observer or air traffic control specialist is signed on. Only completed data can be downloaded.

EXIT -   Returns the user to the 1-Minute Screen.

BACK -   Returns the user to the REVUE-SITE-VERSN screen.

NEXT -   Allows the technician or system manager level users to move to the next field.

SENSR -   Displays the current version of sensor firmware being used for each sensor. See figure 59.

PRINT -   Prints the FIRMWARE VERSION screen.

EXIT -   Returns the user to the 1-Minute Screen.

BACK -   Returns the user to the REVUE-SITE-VERSN screen.

CHANG -   Allows technician level user to make changes to the site's firmware version for the sensors listed.

PREV -   Allows the user to move to the previous field.

ABORT -   Disregards all changes made and returns the user to the 1-Minute Screen.

EXIT -   Saves changes and returns the user to the 1-Minute Screen.

BACK -   Saves changes and returns user to the REVUE-SITE-VERSN-SENSR screen.

NEXT - Allows the user to move to the next field.

EXIT - Returns the user to the 1-Minute Screen.

BACK - Returns the user to the REVUE-SITE functions key template.

```
12:08:45 01/28/98 1308Z                                                        STERLING #4
    +)))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))),
*                                                                                         *
*                                                                                         *
*                                                                                         *
*                                                                                         *
*                                                                                         *
*                                                                                         *
*                                                                                         *
*                                                                                         *
*                                                                                         *
*                                                                                         *
*                                                                                         *
*                                                                                         *
*                                                                                         *
*                                                                                         *
*                                                                                         *
*                                                                               VERSION    *
 *                                                                             +)))))0)))))0)))))1
*                                                                             *SW   *AOMC *SENSR*
 *                                                                             /)))))3)))))3)))))1
*                                                                             *     *     *     *
 *                                                                             /)))))3)))))3)))))1
*                                                                             *EXIT *BACK *     *
    .)))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))2)))))2)))))2)))))-
```

Figure 3-56. REVUE-SITE-VERSN
(All User Levels Except Air Traffic Control Specialist)

```
12:08:58 01/28/98 1308Z                                                        STERLING #4
    +)))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))),
* UNIT    BOARD    NAME              DEVICE  VERSION   DATE                                *
*                                                                                         *
* ACU     CPU A    PSOS OS           EPROM    1.81    03/07/95                             *
*         CPU B    PSOS OS           EPROM    1.81    03/07/95                             *
*         MEMORY   ACU APPLICATION   EPROM    2.52    11/24/97                             *
*         MEMORY   DCP APPLICATION   EPROM    2.52    11/24/97                             *
*                                                                                         *
* DCP-1   CPU A    BOOT              EPROM    1.90    11/03/97                             *
*         CPU B    BOOT              EPROM    1.90    11/03/97                             *
*         MEMORY   DCP APPLICATION   RAM      2.52    11/24/97                             *
*                                                                                         *
* DCP-2   CPU A    BOOT              EPROM    1.90    11/03/97                             *
*                                                                                         *
*         MEMORY   DCP APPLICATION   RAM      2.52    11/24/97                             *
*                                                                             SOFTWARE VERSIONS *
 *                                                                             +)))))0)))))0)))))1
*                                                                             *PRINT*     *     *
 *                                                                             /)))))3)))))3)))))1
*                                                                             *     *     *     *
 *                                                                             /)))))3)))))3)))))1
*                                                                             *EXIT *BACK *     *
    .)))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))2)))))2)))))2)))))-
```

Figure 3-57. REVUE-SITE-VERSN-SW
(All User Levels Except Air Traffic Control Specialist)

```
12:09:20 01/28/98 1309Z                                            STERLING #4
   +))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))),
 *   DATA FILE              STATUS        LAST UPLOAD    LAST DOWNLOAD   *
 *                                                                      *
 * SITE   NORMAL           COMPLETE                      01/27/98 16:12:47 *
 *        PHYSICAL         COMPLETE                      01/27/98 16:07:27 *
 *        PRESSURE         COMPLETE                      01/27/98 16:12:57 *
 *        CRITERION        COMPLETE                      01/27/98 16:13:02 *
 * CONFIG DEFINES          COMPLETE                      01/27/98 16:11:14 *
 *        RS-232 COMM      COMPLETE                      01/27/98 16:07:43 *
 *        SENSORS          COMPLETE                      01/27/98 16:13:36 *
 *        HARDWARE         COMPLETE                      01/27/98 16:11:51 *
 *        EXTERNAL COMM    COMPLETE                      01/27/98 16:13:42 *
 * CMD    VOICE/PASSW      COMPLETE                      01/27/98 16:13:48 *
 * VOICE  AIRPORT NAME     COMPLETE                      01/27/98 16:20:48 *
 * VERSN  SENSOR           COMPLETE                      01/27/98 16:13:45 *
 *                                                    AOMC COMMS STATUS *
  *                                                   +)))))0)))))0)))))1
 *                                                    *PRINT*UP-LD*PREV *
  *                                                   /)))))3)))))3)))))1
 *                                                    *CNCL *DN-LD*      *
  *                                                   /)))))3)))))3)))))1
 *                                                    *EXIT *BACK *NEXT *
   .))))))))))))))))))))))))))))))))))))))))))))))))))))))))2)))))2)))))2)))))-
```

Figure 3-58. REVUE-SITE-VERSN-AOMC
(All User Levels Except Air Traffic Control Specialist)
(Technician and System Manager User Levels Can Request Uploads and Downloads)

```
12:09:37 01/28/98 1309Z                                            STERLING #4
   +))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))),
 *                        SENSOR FIRMWARE VERSION                       *
 *                                                                      *
 * CEILOMETER        CEIL                                               *
 * VISIBILITY        VIS                                                *
 * TEMP/DEW POINT    TEMP                                               *
 * PRESENT WX        PRES                                               *
 * WIND              WIND                                               *
 * PRESSURE          PRESS                                              *
 * FREEZING RAIN     ZR                                                 *
 * LIQUID PRECIP     TB                                                 *
 * THUNDERSTORM      THUNDER                                            *
 *                                                                      *
 *                                                                      *
 *                                                                      *
 *                                                    FIRMWARE VERSION *
  *                                                   +)))))0)))))0)))))1
 *                                                    *PRINT*      *    *
  *                                                   /)))))3)))))3)))))1
 *                                                    *     *    *     *
  *                                                   /)))))3)))))3)))))1
 *                                                    *EXIT *BACK *    *
   .))))))))))))))))))))))))))))))))))))))))))))))))))))))))2)))))2)))))2)))))-
```

Figure 3-59. REVUE-SITE-VERSN-SENSR
(All User Levels Except Air Traffic Control Specialist)

3.2.5.4.3   *User Inputs.*   User inputs to the REVUE-SITE function are:

If CHANG is available and selected for any of the REVUE-SITE functions, the appropriate level user may enter new data for any selected element. Data quality checks are provided to ensure the entry falls within the acceptable ranges for the specific parameter being changed.

3.2.5.4.4   *System Inputs.*   System inputs for the REVUE-SITE function include:

1.   Site physical characteristics data (figure 3-43), including:

        Station name
        Station Identifier
        Station Commissioned
        Station Attended
        Station open 24 hours
        Station opening time
        Station closing time
        Station elevation
        Field elevation
        Pressure sensor elevation
        OBS hourly report time
        OBS edit time
        SHEF hourly transmit time
        Latitude (format DD.MMD or DD:MMD, where DD-Degrees, MM-Minutes, D-Direction)
        Longitude (format DD.MMD or DD:MMD, where DD-Degrees, MM-Minutes, D-Direction)
        Magnetic declination
        Date
        Time
        UTC to LST (Local Standard Time) offset
        METAR Switch Date
        METAR Switch Time
        DSM Generated (Yes or No)
        Primary DSM Transmit Time
        Intermediate DSM Transmit Times (up to 3 entries are permitted)
        MSM Generated (Yes or No)
        MSM Transmit Time

2.   Site hardware configuration data (figure 3-45), including:

        ACU quantities for CPU, SIO, UPS, VIDEO CARD and VOICE PORT (Selected OID)
        up to 3 user-entered DCP statuses; DCP quantities for CPU, SIO, UPS, A to D

3.   Site external communications configuration data (figure 3-46), including:

        Station ID
        Forecast office ID
        AFOS METAR/SPECI Address
        AFOS DSM/MSM Address
        AFOS 15-MIN SHEF Address
        AFOS 1-HOUR SHEF Address
        AFOS phone numbers & station ID's

AFOS message format type
AFOS parity selection
AFOS reply request
AFOS busy attempt time
AFOS send reply time (in seconds)
AFOS received reply time (in minutes)
AFOS Backup for ADAS
AFOS WMO Identifier
Product ID
15-minute SHEF ID
1-hour SHEF ID
DSM/MSM Product ID
ADAS ASOS Address
ADAS Timeout (in seconds)
TCCC Address
AOMC Primary Phone Number
AOMC Secondary Phone Number
AOMC 1200 Baud

4.   Site sensor configuration data (figures 3-48 and 3-49), including:

Multiple sensor designation for up to 16 ports on 3 DCPs,
up to 13 ports on the ACU (Single Cabinet System Only),
and up to three pressure sensors.
Sky and visibility algorithm definitions

5.   Site ACU serial communications configuration data (figure 3-50), including:

Port functions for up to 32 ports consisting of:

Status
Baud rate
Parity select
Bits/Char
Stop Bits
Handshake
Connection
Modem Slot
Dial Type

6.   Site special alert criteria data (figure 3-51), including:

4 mandatory special ceiling height thresholds
up to 6 user-entered special ceiling height thresholds
1 mandatory special cloud layer thresholds
up to 4 user-entered special cloud layer thresholds
3 mandatory special visibility thresholds
up to 6 user-entered special visibility thresholds
1 user-entered RVR special criteria (entry may be either 2400 or blank)

7.   Site local alert criteria data (figure 3-52), including:

        up to 6 user-entered local ceiling height thresholds
        up to 6 user-entered local visibility thresholds

8.   Site SHEF alert data (figure 3-53), including:

        15-minute onset threshold
        15-minute termination threshold

9.   Site normals data for each day in the year (figure 3-54), including:

        temperature minimum
        temperature maximum
        temperature average
        minutes of sunshine

10.   Site normals data for each month in the year (figure 3-54), including:

        monthly normal heating degree days
        monthly normal cooling degree days
        monthly normal precipitation
        season heating degree days
        season cooling degree days

11.   Site pressure data (figure 3-55), including:

        pressure reduction ratio values as a function of the 12-hour average temperature
        for each degree from -70F to 129F, or a pressure reduction constant

3.2.5.4.5   *Execution.*   The procedures for executing the REVUE-SITE functions are:

1.   When the REVUE-SITE function key is selected, the SITE menu screen is displayed; the rest of the OID screen will be blank except for the default heading including date, time, and station name. See figure 3-42.

2.   A REVUE-SITE function is selected from the SITE function template. The functions that may be selected include: PHYS, CRIT, CONFG, VERSN, NORML, and PRESS. The REVUE-SITE-EXIT function terminates the REVUE function and returns the user to the 1-Minute Screen. The REVUE-SITE-BACK function returns the user to the REVIEW menu screen.

3.   For the functions PHYS, CRIT, CONFG, VERSN, NORML, and PRESS, the PRINT function can be selected at any time to cause the currently displayed page to be printed.

4.   For the functions PHYS, CRIT, CONFG, VERSN, NORML, and PRESS, the BACK function can be selected at any time to return the user to the REVUE-SITE menu screen.

5.   For the functions PHYS, CRIT, CONFG, VERSN, NORML, and PRESS, the EXIT function can be selected at any time to return the user to the 1-Minute Screen.

6.   Upon initial selection of the REVUE-SITE-PHYS function, the site physical characteristics display page is presented. See figure 3-43.

         The REVUE-SITE-PHYS-CHANG function, available to technician and system manager level users only, will display a CHANG function template that is used to change selected fields on the page. The PREV and NEXT functions allow the user to select the field for change. By default, the first field on the page will be highlighted to indicate it is selected for change when the CHANG function is initiated. The ABORT function will cause all changes made in the current CHANG session to be abandoned and will return the user to the 1-Minute Screen. The BACK function key will update the system's global database with all changes made in the current CHANG session and return the user to the REVUE-SITE-PHYS screen. The EXIT function key will update the system's global database with all changes made in the current CHANG session and return the user to the 1-Minute Screen.

NOTE: Since changes do not become a part of the system's database until the BACK/EXIT function is pressed, changing the TIME field should be followed immediately by pressing the BACK/EXIT function to assure the system's clock is set as intended.

NOTE: Changing of the system's time during the period between the hourly report time and hourly transmission time, i.e., during EDIT TIME, may cause the loss of reports.

7.   Upon initial selection of the REVUE-SITE-CRIT function, the Criteria for Special Alerts display page is presented. The user can page through the other site criteria pages (Criteria for Local Alerts and Criteria for SHEF Alerts) by using the PAGE function key. The PAGE function works in a circular fashion. See figures 3-51 through 3-53.
         The REVUE-SITE-CRIT-CHANG function key, available to system manager level users only, will display a CHANG function template that is used to select fields on the current display page for change. The PREV and NEXT function keys allow the user to select any field for change. By default, the first field on the selected site criteria display page will be highlighted to indicate it is selected for change. The ABORT function key will cause all changes made in the current CHANG session to be abandoned and returns the user to the 1-Minute Screen. The BACK function key will update the system's global database with all changes made in the current CHANG session and returns the user to the REVUE-SITE-CRIT function template. The EXIT function key will update the system's global database with all changes made in the current CHANG session and return the user to the 1-Minute Screen.

         On the Criteria for Special Alerts display page, 4 mandatory ceiling height threshold values, 1 mandatory cloud layer threshold value, and 3 mandatory visibility threshold values are displayed that are <u>not</u> available for change. System manager level users may provide up to 6 additional user-entered ceiling height threshold values, up to 4 additional user-entered cloud layer threshold values, and up to 6 additional user-entered visibility threshold values.

         On the Criteria for Local Alerts display page, system manager level users may provide up to 6 user-entered ceiling height threshold values and up to 6 user-entered visibility threshold values.

         On the Criteria for SHEF alerts page, system manager level users may set the 15-minute onset threshold and the 15-minute termination threshold.

8.   Upon initial selection of the REVUE-SITE-NORML function, the site's climatological normals

for the current month are displayed. See figure 3-54. The user can page through the site's normals for other months by using the PREV and NEXT functions. A change function (CHANG) is <u>not</u> available for the NORML function.

9.   Upon initial selection of the REVUE-SITE-PRESS function, the first of 10 pressure reduction ratio display pages is presented. The user can page through the other display pages by using the PAGE function key. Each page displays 20 pressure reduction ratio values or the pressure reduction constant for the site. See figure 3-55.

The REVUE-SITE-PRESS-CHANG function key, available to system manager level users only, will display a CHANG function template that is used to select fields to be changed. The PREV and NEXT function keys allow the user to select any field for change. By default, the first field on the page will be highlighted to indicate it is selected for change. The ABORT function key will cause all changes made in the current CHANG session to be abandoned and return the user to the 1-Minute Screen. The BACK function key will update the system's global database with all changes made in the current CHANG session and return the user to the REVUE-SITE-PRESS function template. The EXIT function key will update the system's global database with all changes made in the current CHANG session and return the user to the 1-Minute Screen.

On any display page the system manager may provide either a pressure reduction constant or pressure reduction ratios as a function of temperature. If a non-zero pressure reduction constant is entered, then pressure reduction ratios as a function of temperature are not required. Pressure reduction ratios are entered for every degree of temperature, as required, between -70F and 129F degrees.

10.   The REVUE-SITE-VERSN function will display the VERSION menu screen; the rest of the OID screen will be blank except for the default heading including date, time, and station name. See figure 3-56.

A REVUE-SITE-VERSN function is selected from the REVUE-SITE-VERSN function menu. The functions that may be selected include: SW, AOMC, SENSR, EXIT, and BACK. The REVUE-SITE-VERSN-EXIT function terminates the REVUE function and returns the user to the 1-Minute Screen. The REVUE-SITE-VERSN-BACK function returns the user to the REVUE-SITE menu screen function template.

Upon initial selection of REVUE-SITE-VERSN-SW, the software versions display page is presented. The user may print the page by selecting PRINT, return to the 1-Minute Screen by selecting EXIT, or return to the REVUE-SITE-VERSN screen by selecting BACK. See figure 3-57.

Upon initial selection of REVUE-SITE-VERSN-AOMC, the AOMC communications status page is presented. The functions that may be selected include: PRINT, UP-LD, PREV, CNCL, DN-LD, EXIT, BACK, and NEXT. The user can move through the AOMC communications status by using the PREV and NEXT functions. PRINT will print the current page. BACK will return the user to the REVUE-SITE-VERSN function template and EXIT will return the user to the 1-Minute Screen.

The technician and system manager level users may select UP-LD and DN-LD to schedule uploads or downloads for completed data files on the current cursor line. CNCL may be selected to cancel events not yet uploaded or downloaded on the current cursor line. See figure 3-58.

Upon initial selection of REVUE-SITE-VERSN-SENSR, the firmware version for each sensor is displayed. The user may print the page by selecting PRINT, return to the 1-Minute Screen by selecting EXIT, or return to the REVUE-SITE-VERSN screen by selecting BACK. See figure 3-59. The CHANG function key is available to the technician and will enable him/her to enter the sensor firmware version number for the sensors listed.

11.   Upon initial selection of REVUE-SITE-CONFG, the REVUE-SITE-CONFG menu screen displayed; the rest of the OID screen will be blank except for the default heading including date, time, and station name. See figure 3-44.

A REVUE-SITE-CONFG function is selected from the REVUE-SITE-CONFG menu screen. The functions that may be selected include: HDWE, EXTRN, DEFIN, SENSR, COMMS, EXIT, and BACK. The EXTRN function is only available to the technician and system manager. The REVUE-SITE-CONFG-EXIT function terminates the REVUE function and returns the user to the 1-Minute Screen. The REVUE-SITE-CONFG-BACK function will return the user to the REVUE-SITE menu screen.

For the functions HDWE, EXTRN, DEFIN, SENSR and COMMS, the PRINT function can be selected at any time to cause the currently displayed page to be printed.

For the functions HDWE, EXTRN, DEFIN, SENSR and COMMS, the BACK function key may be selected at any time to return the user to the REVUE-SITE-CONFG menu screen.

For the functions HDWE, EXTRN, DEFIN, SENSR and COMMS, the EXIT function key may be selected at any time to return the user to the 1-Minute Screen.

Upon initial selection of the REVUE-SITE-CONFG-HDWE function, the user is presented with the hardware configuration page. See figure 3-45. The CHANG function key is available to technician and system manager level users which will enable them to change the hardware configuration. The PREV and NEXT function keys allow the user to select a field for change. The SEQN function sequences through all allowable entries for the selected field. The ABORT function will disregard all changes made since being on this page and return the user to the 1-Minute Screen. PRINT will print the current page, BACK will save all changes and return the user to the REVUE-SITE-CONFG-HDWE menu screen, and EXIT will save all changes and return the user to the 1-Minute Screen.

Upon initial selection of the REVUE-SITE-CONFG-EXTRN function, the technician or system manager is presented with the external communications page. See figure 3-46. The technician and system manager are the only users with access to this page. The CHANG function key is available to enable changes to the external communications configuration. The PREV and NEXT function keys allow the user to select any field for change. SEQN sequences through all allowable entries for the selected field, and ABORT will disregard all changes made since being on this page and return the user to the 1-Minute Screen. PRINT will print the current page, BACK will save all changes and return the user to the REVUE-SITE-CONFG-EXTRN menu screen, and EXIT will save all changes and return the user to the 1-Minute Screen.

Upon initial selection of the REVUE-SITE-CONFG-DEFIN function, the user is presented with the define configuration page. See figure 3-47. The CHANG function key is available to technician and system manager level users which will enable them to change the define configuration data. The PREV and NEXT function keys allow the user to select any field for change. SEQN sequences through all allowable entries for the selected field, and ABORT will

disregard all changes made since being on this page and return the user to the 1-Minute Screen. PRINT will print the current page, BACK will save all changes and return the user to the REVUE-SITE-CONFG-DEFIN menu screen, and EXIT will save all changes and return the user to the 1-Minute Screen.

Upon initial selection of the REVUE-SITE-CONFG-SENSR function, the user is presented with the sensor configuration page. See figure 3-48. Selection of ALGOR will enable the user to change the sensor algorithm characteristics. See figure 3-49. The CHANG function key is available to technician and system manager level users which will enable them to change the sensor configuration and the algorithm characteristics. ABORT will disregard all changes made since being on this page and return the user to the 1-Minute Screen. The PREV and NEXT function keys allow the user to select any field for change. PRINT will print the current page, BACK will save all changes and return the user to the REVUE-SITE-CONFG-SENSR menu screen, and EXIT will save all changes and return the user to the 1-Minute Screen.

Upon initial selection of the REVUE-SITE-CONFG-COMMS function, the user is presented with the ACU serial communications page. See figure 3-50. The PREV and NEXT function keys allow the user to select any field to view the port's parameters or to make a change. Only the technician and system manager can make changes to this page. SIO will allow the user to move forward four lines. The PREV and NEXT function keys allow the user to select any field for change. SEQN sequences through all allowable entries for the selected field, and ABORT will disregard all changes made since being on this page and return the user to the 1-Minute Screen. BACK will save all changes and return the user to the REVUE-SITE-CONFG-COMMS menu screen. EXIT will save all changes and return the user to the 1-Minute Screen. PRINT will print the current page.

3.2.5.4.6 *Termination.* The REVUE-SITE-EXIT function or the EXIT function for any of the REVUE-SITE functions (PHYS, CRIT, CONFG, VERSN, NORML, and PRESS) is used to terminate the REVUE-SITE function and return the user to the 1-Minute Screen.

3.2.5.4.7 *Restart.* Selecting REVUE from the 1-Minute Screen and then selecting SITE from the REVIEW menu screen will restart the REVUE-SITE function.

3.2.5.4.8 *Outputs.* Outputs of the REVUE-SITE function are:

1.   Hard copy prints of the site specific data display pages selected by the user.

2.   Updated site physical characteristics data file.

3.   Updated site hardware configuration data file.

4.   Updated site external communications configuration data file.

5.   Updated site sensor configuration data file.

6.   Updated ACU serial communications configuration data file.

7.   Updated site special, local, and SHEF alert criteria data file.

8.   Updated site pressure data file.

3.2.5.4.9 *Interrelationship.* The CHANG function provided to either technician or system manager level users, as applicable, allows system constants and parameters to be changed that may affect the system's operation. If an observer or air traffic control specialist level user is signed on the system, no REVUE-SITE-CHANG functions will be allowed until such time as they sign off the system. When the REVUE-SITE-CHANG function is permitted and is selected by a technician or system manager, a message will be displayed on all user devices that system modifications are being made. This message will be removed when the system modifications have been completed or aborted.

3.2.5.5 **REVUE-SENSR Function.** The REVUE-SENSR function provides access to current sensor data that are used in the sensor processing algorithms, sensor digital data as received at the ACU and stored for twelve hours, and sensor configuration data stored in the ACU non-volatile memory of ASOS. Any ASOS user may review and print sensor data and the sensor configuration without the requirement of being signed on to the system. Users signed on at the air traffic control specialist level do not have access to review or print the sensor current or 12-hour data. Air traffic control specialist level users are allowed access to the sensor configuration data and can change the report processing state for selected sensors.

3.2.5.5.1 *Initialization.* The 1-Minute Screen must be displayed on the OID to access the REVUE-SENSR function. Figure 3-60 shows the REVUE-SENSR screen. The help screen may be accessed by pressing the HELP key on the function keypad or the zero key (0) on the auxiliary keypad.

```
 12:11:40 01/28/98 1311Z                                              STERLING #4
    +))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))),
  *                                                                              *
  *                                                                              *
  *                                                                              *
  *                                                                              *
  *                                                                              *
  *                                                                              *
  *                                                                              *
  *                                                                              *
  *                                                                              *
  *                                                                              *
  *                                                                              *
  *                                                                              *
  *                                                                              *
  *                                                                              *
  *                                                                              *
  *                                                        SENSOR         *
   *                                                     +)))))0)))))0)))))1
  *                                                     *DATA *STAT *12-HR*
   *                                                     /)))))3)))))3)))))1
  *                                                     *     *     *     *
   *                                                     /)))))3)))))3)))))1
  *                                                     *EXIT *BACK *     *
    .)))))))))))))))))))))))))))))))))))))))))))))))))))))))))))2)))))2)))))2)))))-
```
Figure 3-60. REVUE-SENSR
(All User Levels)

3.2.5.5.2 *Execution Options.* After selecting the REVUE function from the 1-Minute Screen, and then the SENSR function from the REVIEW menu screen, the user is presented with the following selectable REVUE-SENSR functions:

DATA - The REVUE-SENSR-DATA function provides access to the current sensor data. The functions below are available to all users with the exception of the air traffic control specialists. There will be a minimum of five CURRENT data pages available. At most, there will be seven CURRENT

data pages if three ceilometers are configured at the site. See figures 3-61 through 3-66. The help screen may be accessed by pressing the HELP key on the function keypad or the zero key (0) on the auxiliary keypad.

PRINT -   Causes the displayed CURRENT sensor data page to be printed.

PAGE -   Pages between the CURRENT sensor data display screens in a circular fashion.

UPDAT -   Refreshes the CURRENT sensor data display with the most recent sensor data inputs used by the sensor processing algorithms.

EXIT -   Returns the user to the 1-Minute Screen.

BACK -   Returns the user to the REVUE-SENSR menu screen.

```
12:12:03 01/28/98 1312Z                                          STERLING #4
    +)))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))),
 *                       1-MINUTE CURRENT SENSOR DATA                         *
 *                                                                            *
 *    UTC  VIS1  D/N1  VIS2  D/N2  VIS3  D/N3  TEMP DEWPT  5SEC WIND   RVR     *
 *                                                                            *
 *   1302  3.90   D    4.77   D                 35   34    12   20     M       *
 *   1303  3.94   D    4.51   D                 35   34    17   19     M       *
 *   1304  4.10   D    4.63   D                 35   34    13   21     M       *
 *   1305  3.90   D    4.49   D                 35   34    35   16     M       *
 *   1306  3.83   D    4.12   D                 35   34    16   20     M       *
 *   1307  4.06   D    3.94   D                 35   34    19   21     M       *
 *   1308  4.08   D    4.44   D                 35   34    27   20     M       *
 *   1309  4.42   D    5.19   D                 35   34    17   21     M       *
 *   1310  4.68   D    5.34   D                 35   34    13   19     M       *
 *   1311  4.47   D    5.27   D                 35   34    18   16     M       *
 *                                                                CURRENT     *
  * PRECIPITATION AMOUNT (HOUR):   0.02 IN               +)))))0)))))0)))))1
 * WATER EQUIVALENT (HOUR):        M    IN              *PRINT*PAGE *      *
  * CURRENT SNOW DEPTH:            M    IN              /)))))3)))))3)))))1
 *                                                      *     *    *UPDAT*
  *                                                     /)))))3)))))3)))))1
 *                                                      *EXIT *BACK *      *
    .)))))))))))))))))))))))))))))))))))))))))))))))))))))))))2)))))2)))))2)))))-
```

Figure 3-61. REVUE-SENSR-DATA (Page 1)
(All User Levels Except the Air Traffic Control Specialist)

```
12:12:18 01/28/98 1312Z                                          STERLING #4
    +)))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))),
 *                       1-MINUTE CURRENT SENSOR DATA                         *
 *                                                                            *
 *                        UTC   WX    ZR   TS                                 *
 *                                                                            *
 *                        1258  R    --   -                                   *
 *                        1259  R    --   -                                   *
 *                        1300  R    --   -                                   *
 *                        1301  R    --   -                                   *
 *                        1302  R    --   -                                   *
 *                        1303  R    --   -                                   *
 *                        1304  R    --   -                                   *
 *                        1305  R    --   -                                   *
 *                        1306  R    --   -                                   *
 *                        1307  R    --   -                                   *
 *                        1308  R    --   -                         CURRENT   *
  *                        1309  R     --   -               +)))))0)))))0)))))1
 *                        1310  R    --   -               *PRINT*PAGE *      *
  *                        1311  R     --   -               /)))))3)))))3)))))1
 *                        1312                             *     *    *UPDAT*
  *                                                         /)))))3)))))3)))))1
 *                                                          *EXIT *BACK *      *
    .)))))))))))))))))))))))))))))))))))))))))))))))))))))))))2)))))2)))))2)))))-
```

Figure 3-62. REVUE-SENSR-DATA (Page 2)
(All User Levels Except the Air Traffic Control Specialist)

```
12:12:33 01/28/98 1312Z                                            STERLING #4
    +)))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))),
*                          5-SECOND AVERAGE WIND                              *
*                                                                            *
*  READINGS  WIND DIR  WIND SPD     READINGS  WIND DIR  WIND SPD             *
*  OLDEST    67         9             12       15       14                   *
*    23      25        10             11       10       19                   *
*    22      43        11             10       23       17                   *
*    21      19        13              9       22       17                   *
*    20      28        15              8       41       16                   *
*    19      98        12              7       11       20                   *
*    18      15        13              6       11       18                   *
*    17      17        12              5       12       16                   *
*    16      18        16              4       17       14                   *
*    15      27        15              3       18       12                   *
*    14      35        11              2       21       13                   *
*    13      11        14           NEWEST     33       16           CURRENT  *
 *                                                            +)))))0)))))0)))))1
*                                                            *PRINT*PAGE *     *
 *                                                           /)))))3)))))3)))))1
*                                                            *     *    *UPDAT*
 *                                                           /)))))3)))))3)))))1
*                                                            *EXIT *BACK *     *
  .)))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))2)))))2)))))2)))))-
```
Figure 3-63. REVUE-SENSR-DATA (Page 3)
(All User Levels Except the Air Traffic Control Specialist)

```
12:12:43 01/28/98 1312Z                                            STERLING #4
    +)))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))),
*                                                                            *
*                                                                            *
*                          10-SECOND PRESSURE                                *
*                                                                            *
*                                                                            *
*          READINGS  PRESSURE 1   PRESSURE 2   PRESSURE 3                    *
*          OLDEST    29.422       29.421       29.422                        *
*             5      29.421       29.421       29.422                        *
*             4      29.422       29.422       29.423                        *
*             3      29.423       29.423       29.424                        *
*             2      29.424       29.424       29.425                        *
*          NEWEST    29.425       29.425       29.426                        *
*                                                                            *
*                                                                            *
*                                                            CURRENT          *
 *                                                            +)))))0)))))0)))))1
*                                                            *PRINT*PAGE *     *
 *                                                           /)))))3)))))3)))))1
*                                                            *     *    *UPDAT*
 *                                                           /)))))3)))))3)))))1
*                                                            *EXIT *BACK *     *
  .)))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))2)))))2)))))2)))))-
```
Figure 3-64. REVUE-SENSR-DATA (Page 4)
(All User Levels Except the Air Traffic Control Specialist)

```
12:12:56 01/28/98 1312Z                                          STERLING #4
   +)))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))),
 *                            CEILOMETER  # 1                               *
 *                                                                          *
 *    UTC                  UTC                  UTC                         *
 *    1258 1 01400 00500   1303 1 01750 00350   1308 1 01300 00400          *
 *         1 01250 00500        1 01050 00500        1 01400 00350          *
 *    1259 1 01050 00500   1304 1 01250 00450   1309 1 01400 00500          *
 *         1 01300 00400        1 01000 00500        1 01300 00500          *
 *    1300 1 01250 00500   1305 2 01000 00050   1310 1 01200 00500          *
 *         1 01100 00500        1 01150 00500        1 01400 00500          *
 *    1301 1 01050 00500   1306 1 01200 00450   1311 1 01250 00500          *
 *         1 01000 00500        1 01250 00500        2 01000 00050          *
 *    1302 1 00950 00500   1307 1 01300 00250   1312 1 01150 00500          *
 *         1 01250 00450        1 01350 00500        1 01200 00500          *
 *                                                                          *
 *                                                          CURRENT         *
  *                                                +)))))0)))))0)))))1
 *                                                *PRINT*PAGE *       *
  *                                               /)))))3)))))3)))))1
 *                                                *MORE *       *UPDAT*
  *                                               /)))))3)))))3)))))1
 *                                                *EXIT *BACK *       *
    .))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))2)))))2)))))2)))))-
```

Figure 3-65. REVUE-SENSR-DATA (Page 5)
(All User Levels Except the Air Traffic Control Specialist)

```
12:13:09 01/28/98 1313Z                                          STERLING #4
   +)))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))),
 *                            CEILOMETER  # 2                               *
 *                                                                          *
 *    UTC                  UTC                  UTC                         *
 *    1258 1 01750 00250   1303 1 01250 00250   1308 1 01150 00350          *
 *         1 01300 00400        2 00800 00050        1 01250 00250          *
 *    1259 2 00850 00150   1304 1 01300 00300   1309 1 01050 00400          *
 *         1 01150 00200        1 01100 00300        2 01100 00150          *
 *    1300 1 01150 00150   1305 2 01400 00050   1310 1 01300 00300          *
 *         1 01150 00300        1 01400 00250        1 01050 00500          *
 *    1301 1 01350 00200   1306 1 01300 00300   1311 1 01100 00500          *
 *         1 01050 00250        1 01400 00450        2 01200 00150          *
 *    1302 1 00950 00300   1307 2 00900 00100   1312 1 00900 00500          *
 *         1 01100 00300        2 01050 00150        1 01300 00250          *
 *                                                                          *
 *                                                          CURRENT         *
  *                                                +)))))0)))))0)))))1
 *                                                *PRINT*PAGE *       *
  *                                               /)))))3)))))3)))))1
 *                                                *MORE *       *UPDAT*
  *                                               /)))))3)))))3)))))1
 *                                                *EXIT *BACK *       *
    .))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))2)))))2)))))2)))))-
```

Figure 3-66. REVUE-SENSR-DATA (Page 6)
(All User Levels Except the Air Traffic Control Specialist)

NOTE: A page seven would exist if three ceilometers were configured at the site.

STAT -   The REVUE-SENSR-STAT function provides access to the site-specific sensor status data. Through this function, it is possible for those signed on at any password level to turn off or on the algorithm output for the data fields on the 1-Minute Screen. See figures 3-67 and 3-68.   The help screen may be accessed by pressing the HELP key on the function keypad or the zero key (0) on the auxiliary keypad.

     PRINT -   Causes the displayed sensor status page to be printed.

     PAGE -   If required, pages between the sensor status display screens in a circular fashion.

     PREV -   This function is available to users signed on at any level (observer, air traffic control specialist, technician, and system manager). It is used with the NEXT function to select a sensor on the sensor status page.

     PROC -   The RPT PROC field indicates the present report processing status of each sensor. PROC allows report processing for a sensor to be turned ON or OFF. This function is available only to users signed on at any level (observer, air traffic control specialist, technician, and system manager). Only the technician can turn report processing ON for the pressure sensors.

     EXIT -   Saves changes and returns the user to the 1-Minute Screen.

     BACK -   Saves changes and returns the user to the REVUE-SENSR function template.

     NEXT -   This function is available to users signed on at any level (observer, air traffic control specialist, technician, and system manager). It is used with the PREV function to select a sensor on the sensor status page.

```
 12:13:47 01/28/98 1313Z                                            STERLING #4
    +))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))),
    *    SENSOR              DCP#  SELFTEST  DATA QUALITY  AUTO/MAN  RPT PROC      *
    *                                                                             *
    * PRESSURE #1            L       P           P          AUTO      ON           *
    * PRESSURE #2            L       P           P          AUTO      ON           *
    * PRESSURE #3            L       P           P          AUTO      ON           *
    * TEMPERATURE            1       P           P          AUTO      ON           *
    * DEWPOINT               1       P           P          AUTO      ON           *
    * WIND SPEED/DIR         1       P           P          AUTO      ON           *
    * PRES WEA #1            1       P           P          AUTO      ON           *
    * THUNDERSTORM           1       P           P          AUTO      ON           *
    * VISIBILITY #1          1       P           F          AUTO      ON           *
    * VISIBILITY #2          2       P           P          AUTO      ON           *
    * FREEZING RAIN          1       P           P          AUTO      ON           *
    * CEILOMETER #1          1       P           P          AUTO      ON           *
    *                                                              STATUS        *
     *                                                     +)))))0)))))0)))))1
    *                                                     *PRINT*PAGE *PREV *
     *                                                     /)))))3)))))3)))))1
    *                                                     *     *PROC *       *
     *                                                     /)))))3)))))3)))))1
    *                                                     *EXIT *BACK *NEXT *
    .)))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))2)))))2)))))2)))))-
```
Figure 3-67. REVUE-SENSR-STAT (Page 1)
(The Unsigned User Level Can Not Change The Report Processing Status)

NOTE: Most sites will only have one page of sensors listed.

```
 12:14:01 01/28/98 1314Z                                              STERLING #4
     +))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))),
   *    SENSOR            DCP#  SELFTEST  DATA QUALITY  AUTO/MAN  RPT PROC       *
   *                                                                            *
   * CEILOMETER #2          2      P          P          AUTO      ON            *
   * TIPPING BUCKET         1     N/A         P          AUTO      ON            *
   * RVR                   N/A    N/A        N/A         MAN       OFF           *
   *                                                                            *
   *                                                                            *
   *                                                                            *
   *                                                                            *
   *                                                                            *
   *                                                                            *
   *                                                                            *
   *                                                                            *
   *                                                                            *
   *                                                                 STATUS     *
    *                                                        +)))))0)))))0))))1
   *                                                        *PRINT*PAGE *PREV *
    *                                                       /)))))3)))))3)))))1
   *                                                        *     *PROC *     *
    *                                                       /)))))3)))))3)))))1
   *                                                        *EXIT *BACK *NEXT *
    .))))))))))))))))))))))))))))))))))))))))))))))))))))))))))2)))))2)))))2)))))-
```
Figure 3-68. REVUE-SENSR-STAT (Page 2, if required)
(The Unsigned User Level Can Not Change The Report Processing Status)

12HR -   The REVUE-SENSR-12-HR function provides access to the 12-hour archive sensor data. The
         functions below are available to all users with the exception of the air traffic control specialists. There
         will be a minimum of four 12HR ARCHIVE data pages available. At most, there will be six 12HR
         ARCHIVE data pages if three ceilometers are configured at the site. See figures 3-69 through 3-73.
         The help screen may be accessed by pressing the HELP key on the function keypad or the zero key
         (0) on the auxiliary keypad.

         PRINT -   Causes the displayed 12HR ARCHIVE sensor data page to be printed.

         PAGE -   Pages between the 12HR ARCHIVE sensor data pages in a circular fashion.

         PREV -   Pages back one screen full of 12HR ARCHIVE sensor data. Causes display of older
                   archive sensor data since the most recent data are appended to the end of the archive file.

         TIME -   Prompts the user to supply a time (UTC) of day to use in searching for specific archive
                   sensor data.

         EXIT -   Returns the user to the 1-Minute Screen.

         BACK -   Returns the user to the REVUE-SENSR function template.

         NEXT -   Pages ahead one screen full of 12HR ARCHIVE sensor data. Causes display of newer
                   archive sensor data since the most recent data are appended to the end of the archive file.

EXIT -   Returns the user to the 1-Minute Screen.

BACK -   Returns the user to the REVIEW function template.

```
12:14:38 01/28/98 1314Z                                        STERLING #4
     +)))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))),
 *    UTC   VIS1  D/N1  VIS2  D/N2  VIS3  D/N3  WIND DIR/SPD 5SEC WIND   RVR    *
 *   1303  0.521 N    0.455 D                    20   16    17   19  [  M   ] *
 *   1304  0.500 N    0.443 D                    19   16    13   21  [  M   ] *
 *   1305  0.525 N    0.457 D                    16   15    35   16  [  M   ] *
 *   1306  0.536 N    0.497 D                    18   15    16   20  [  M   ] *
 *   1307  0.505 N    0.520 D                    20   16    19   21  [  M   ] *
 *   1308  0.503 D    0.461 D                    21   17    27   20  [  M   ] *
 *   1309  0.464 D    0.395 D                    19   17    17   21  [  M   ] *
 *   1310  0.439 D    0.384 D                    15   17    13   19  [  M   ] *
 *   1311  0.459 D    0.389 D                    24   15    18   16  [  M   ] *
 *   1312  0.421 D    0.397 D                    27   14    11   20  [  M   ] *
 *   1313  0.398 D    0.403 D                    21   15    10   16  [  M   ] *
 *   1314  0.375 D    0.366 D                    22   15    22   20  [  M   ] *
 *                                                                            *
 *                                                        12HR ARCHIVE      *
  *                                                       +)))))0)))))0)))))1
 *                                                        *PRINT*PAGE *PREV *
  *                                                       /)))))3)))))3)))))1
 *                                                        *     *TIME *     *
  *                                                       /)))))3)))))3)))))1
 *                                                        *EXIT *BACK *NEXT *
    .)))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))2)))))2)))))2)))))-
```

Figure 3-69. REVUE-SENSR-12-HR (Page 1)
(All User Levels Except the Air Traffic Control Specialist)

```
12:14:52 01/28/98 1314Z                                        STERLING #4
     +)))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))),
 * UTC   WX    TS   PRECIP SUN    SNOW    ZR    PRESS1  PRESS2  PRESS3  TEMP DEWPT*
 *1303   R    0000   0.00                39990  29.422  29.422  29.423    35   34 *
 *1304   R    0000   0.00                39989  29.422  29.422  29.423    35   34 *
 *1305   R    0000   0.00                39989  29.422  29.422  29.423    35   34 *
 *1306   R    0000   0.00                39989  29.422  29.422  29.423    35   34 *
 *1307   R    0000   0.01                39990  29.421  29.421  29.422    35   34 *
 *1308   R    0000   0.00                39990  29.421  29.421  29.422    35   34 *
 *1309   R    0000   0.00                39990  29.419  29.419  29.420    35   34 *
 *1310   R    0000   0.00                39990  29.420  29.419  29.420    35   34 *
 *1311   R    0000   0.00                39990  29.420  29.420  29.421    35   34 *
 *1312   R    0000   0.00                39990  29.421  29.421  29.422    35   34 *
 *1313   R    0000   0.00                39990  29.423  29.423  29.424    35   34 *
 *1314   R-   0000   0.00                39990  29.419  29.419  29.420    35   34 *
 *                                                                            *
 *                                                        12HR ARCHIVE      *
  *                                                       +)))))0)))))0)))))1
 *                                                        *PRINT*PAGE *PREV *
  *                                                       /)))))3)))))3)))))1
 *                                                        *     *TIME *     *
  *                                                       /)))))3)))))3)))))1
 *                                                        *EXIT *BACK *NEXT *
    .)))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))2)))))2)))))2)))))-
```

Figure 3-70. REVUE-SENSR-12-HR (Page 2)
(All User Levels Except the Air Traffic Control Specialist)

```
12:15:06 01/28/98 1315Z                                            STERLING #4
    +)))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))),
 *                        15-MINUTE PRECIPITATION AMOUNT                        *
 *    UTC                 UTC                 UTC                 UTC            *
 *    0115    0.02        0415    0.03        0715    0.03        1015    0.01   *
 *    0130    0.01        0430    0.05        0730    0.04        1030    0.01   *
 *    0145    0.01        0445    0.05        0745    0.03        1045    0.01   *
 *    0200    0.02        0500    0.04        0800    0.03        1100    0.04   *
 *    0215    0.01        0515    0.03        0815    0.03        1115    0.05   *
 *    0230    0.02        0530    0.03        0830    0.03        1130    0.02   *
 *    0245    0.02        0545    0.01        0845    0.02        1145    0.02   *
 *    0300    0.02        0600    0.02        0900    0.03        1200    0.03   *
 *    0315    0.01        0615    0.03        0915    0.03        1215    0.03   *
 *    0330    0.02        0630    0.03        0930    0.03        1230    0.03   *
 *    0345    0.02        0645    0.03        0945    0.02        1245    0.04   *
 *    0400    0.04        0700    0.02        1000    0.01        1300    0.02   *
 *                                                            12HR ARCHIVE    *
  *                                                       +)))))0)))))0)))))1
 *                                                       *PRINT*PAGE *       *
  *                                                      /)))))3)))))3)))))1
 *                                                       *      *      *      *
  *                                                      /)))))3)))))3)))))1
 *                                                       *EXIT *BACK *       *
    .)))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))2)))))2)))))2)))))-
```

Figure 3-71. REVUE-SENSR-12-HR (Page 3)
(All User Levels Except the Air Traffic Control Specialist)

```
12:15:18 01/28/98 1315Z                                            STERLING #4
    +)))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))),
 *                        CEILOMETER  # 1                                       *
 * UTC  1311                                                                    *
 * 10   01250 00500 ///// ///// 0000011011  0 3 0.01   27  42 111 14.2  1.27 10 *
 * 20   01000 00050 01300 00300 0000011011  0 3 0.01   32  34 115 14.2  1.34 10 *
 * UTC  1312                                                                    *
 * 10   01150 00500 ///// ///// 0000011011  0 3 0.01   35  39 111 14.2  1.31 10 *
 * 10   01200 00500 ///// ///// 0000011011  0 2 0.01   29  36 112 14.2  1.27 10 *
 * UTC  1313                                                                    *
 * 10   01100 00500 ///// ///// 0000011011  0 2 0.01   33  35 105 14.2  1.33 10 *
 * 10   01150 00450 ///// ///// 0000011011  0 2 0.01   31  34 105 12.3  1.32 10 *
 * UTC  1314                                                                    *
 * 10   01400 00400 ///// ///// 0000011011  0 2 0.01   35  38 106 14.2  1.31 10 *
 * 20   01350 00200 02150 00100 0000011011  0 2 0.01   33  47 104 14.2  1.28 10 *
 *                                                                              *
 *                                                            12HR ARCHIVE    *
  *                                                       +)))))0)))))0)))))1
 *                                                       *PRINT*PAGE *PREV *
  *                                                      /)))))3)))))3)))))1
 *                                                       *      *TIME *       *
  *                                                      /)))))3)))))3)))))1
 *                                                       *EXIT *BACK *NEXT *
    .)))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))2)))))2)))))2)))))-
```

Figure 3-72. REVUE-SENSR-DATA (Page 4)
(All User Levels Except the Air Traffic Control Specialist)

```
 12:15:31 01/28/98 1315Z                                              STERLING #4
     +)))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))),
*                            CEILOMETER  # 2                                    *
* UTC  1311                                                                     *
* 10   01100 00500 ///// ///// 0000011001  0 7 0.01  36  36 108 10.3  1.21 10   *
* 20   01200 00150 01700 00150 0000011001  0 7 0.01  33  39 110 10.3  1.19 10   *
* UTC  1312                                                                     *
* 10   00900 00500 ///// ///// 0000011001  0 7 0.01  40  31 106 12.3  1.24 10   *
* 10   01300 00250 ///// ///// 0000011001  2 7 0.02  38  33 108 12.3  1.74 10   *
* UTC  1313                                                                     *
* 10   01350 00350 ///// ///// 0000011001  2 7 0.02  37  36 110 10.3  1.71 10   *
* 10   01250 00350 ///// ///// 0000011001  2 7 0.02  39  34 107 10.3  1.70 10   *
* UTC  1314                                                                     *
* 10   01300 00400 ///// ///// 0000011001  2 7 0.02  43  36 110 10.3  1.75 10   *
* 10   01250 00300 ///// ///// 0000011001  2 7 0.02  43  33 109 12.3  1.80 10   *
*                                                                               *
*                                                                  12HR ARCHIVE *
 *                                                               +)))))0)))))0)))))1
*                                                               *PRINT*PAGE *PREV *
 *                                                               /)))))3)))))3)))))1
*                                                               *     *TIME *     *
 *                                                               /)))))3)))))3)))))1
*                                                               *EXIT *BACK *NEXT *
     .))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))2)))))2)))))2)))))-
```
Figure 3-73. REVUE-SENSR-12-HR (Page 5)
(All User Levels Except the Air Traffic Control Specialist)

NOTE: A page six would exist if three ceilometers were configured at the site.

3.2.5.5.3   *User Inputs.*   User inputs to the REVUE-SENSR function are:

1.   UTC time within the past 12 hours to indicate starting point for the 12HOUR ARCHIVE sensor data screen display.

2.   Weather sensor report processing (RPT PROC) ON/OFF status for each sensor configured.

3.2.5.5.4   *System Inputs.*   System inputs for the REVUE-SENSR function include:

1.   CURRENT sensor data used by sensor processing algorithms, including:

Page 1 Data (Figure 3-61)
1-minute average visibility for each configured visibility sensor.
1-minute photometer reading for each configured visibility sensor (day/night).
1-minute average ambient temperature.
1-minute average dewpoint temperature.
Peak 5-second average wind speed and direction during each minute.
1-minute RVR data.
Hourly precipitation amount.
Hourly water equivalent.
1-minute current snow depth.

Page 2 Data (Figure 3-62)
1-minute present weather identifier.
1-minute freezing rain occurrence.
1-minute lightning data (thunderstorm).
Page 3 Data (Figure 3-63)

5-second average wind speed and direction for 2 minutes.

Page 4 Data (Figure 3-64)
10-second pressure reading for each of the pressure sensors.

Pages 5 and 6 Data (Figures 3-65 and 3-66)
30-second cloud height reading for each configured ceilometer.

2.   1-minute sensor data 12-HOUR ARCHIVE file, including:

Page 1 Data (Figure 3-69)
1-minute average extinction coefficient for each configured visibility sensor.
1-minute photometer reading for each configured visibility sensor (day/night).
2-minute average wind speed and direction for each minute.
Maximum 5-second average wind speed and direction for each minute.
1-minute RVR data

Page 2 Data (Figure 3-70)
1-minute present weather identifier.
1-minute lightning data (thunderstorm).
1-minute precipitation amount.
1-minute sunshine data.
1-minute snow depth.
1-minute freezing rain sensor frequency.
1-minute average pressure for each of the two or three pressure sensors.
1-minute average ambient temperature.
1-minute average dewpoint temperature.

Page 3 Data (Figure 3-71)
15-minute incremental precipitation amount stored every 15 minutes.

Pages 4 and 5 Data (Figures 3-72 and 3-73)
30-second cloud height reading for each configured ceilometer.

3.   System sensor configuration data (Figures 3-67 and 3-68), including:

System sensor/DCP assignment configuration data.

Selftest and Data Quality algorithm results (P - Pass, F- Fail, and N/A - Not Applicable).

Current sensor mode (AUTO or MAN) for each configured sensor as a function of editing
  1-minute observation data by observers or air traffic control specialists.

Status of report processing (ON or OFF).

4.   User level of current signed-on user associated with the OID.

3.2.5.5.5   *Execution*. The following procedures describe the execution of the REVUE-SENSR function:

1.   When the REVUE-SENSR function key is selected, the SENSOR function menu template is displayed; the rest of the OID screen will be blank except for the default heading including date, time, and station name. See figure 3-60.

2.   A REVUE-SENSR function is selected from the SENSOR function menu template. The functions that may be selected are DATA, STAT, and 12-HR. The REVUE-SENSR-EXIT function terminates the REVUE function and returns the user to the 1-Minute Screen. The REVUE-SENSR-BACK function terminates the REVUE-SENSR function and returns the user to the REVIEW screen.

3.   For the functions DATA, STAT, and 12-HR, the PRINT function may be selected at any time to cause the currently displayed page to be printed. The PRINT, DATA, and 12-HR functions are not available to the air traffic control specialist level user.

4.   For the functions DATA, STAT, and 12-HR, the BACK function may be selected at any time to cause a return to the REVUE-SENSR function template display.

5.   For the functions DATA, STAT, and 12-HR, the EXIT function may be selected at any time to return the user to the 1-Minute Screen.

6.   Upon initial selection of the REVUE-SENSR-DATA function, the first page of current sensor data is presented.   See figure 3-61. This page contains selected 1-minute current sensor data for a 10-minute period. The most recent 1-minute current sensor data are shown at the bottom of the display, with older data arrayed above it. The display page contains columns for 3 visibility sensors and their associated photometers. For systems where multiple visibility sensors are not configured, the unnecessary columns will contain blanks. The page also contains columns for temperature, dewpoint, Runway Visual Range (RVR) consisting of ASCII data generated by the algorithms, and the peak 5-second wind speed and direction. At the bottom of the page the current hourly precipitation amount, current hourly water equivalent amount, and current snow depth are displayed.

7.   The user may page through the other current sensor data display pages by using the PAGE function key. The PAGE function works in a circular fashion.

8.   The second current sensor data display page contains selected 1-minute current sensor data for a 15-minute period. See figure 3-62. The most recent 1-minute data are shown at the bottom of the display, with older data arrayed above it. The display page contains columns for present weather identifier, freezing rain occurrence, and lightning (thunderstorm) occurrence.

9.   The third current sensor data display page contains current 5-second average wind sensor data for a 2-minute period. See figure 3-63. The wind direction data are the 5-second average wind direction held for 2 minutes. The wind speed data are the 5-second average wind speed held for 2 minutes.

10.   The fourth current sensor data display page contains current pressure sensor data for each sensor for a 1-minute period. See figure 3-64. The pressure data are the 10-second pressure sensor readings held for 1 minute.

11.   The fifth current sensor data display page contains current ceilometer data for the primary ceilometer for a 30-minute period. See figure 3-65. The ceilometer data are the 30-second

cloud height readings held for 30 minutes. If multiple ceilometers are configured in the system, additional current sensor data display pages are provided for the second and possible third ceilometers. See figure 3-66. The following format is used on the ceilometer data pages:

$N\ H_1H_1H_1H_1H_1\ T_1T_1T_1T_1T_1$
$N\ H_2H_2H_2H_2H_2\ T_2T_2T_2T_2T_2$

Where:

$N = 0$	no significant backscatter (clear air)
$N = 1$	one layer detected
$N = 2$	two layers detected
$N = 3$	sky is fully obscured but no cloud base can be detected from echo signal received (e.g. fog or precipitation)
$N = 4$	sky is partially obscured and no cloud base is detected

If:

$N = 0$ or 4: $H_1 = H_2 = T_1 = T_2 = $ /////

$N = 1$ or 2: $H_1H_1H_1H_1H_1 = $ the lowest detected cloud height in 5 digits. Leading zeroes not suppressed.

$T_1T_1T_1T_1T_1 = $ range of backscatter of first layer; ///// if not defined

$N = 2$: $H_2H_2H_2H_2H_2 = $ second cloud height; ///// if not defined

$T_2T_2T_2T_2T_2 = $ range of backscatter of second layer; ///// if not defined

$N = 3$: $H_1H_1H_1H_1H_1 = $ calculated vertical visibility

$T_1T_1T_1T_1T_1 = $ range limit i.e. height of highest detected backscatter

12.   The UPDAT function may be used at any time to refresh the displayed current sensor data with the most recent data being used by the sensor processing algorithms. The current sensor data displays do not refresh automatically.

13.   The MORE function may be used when displaying ceilometer data to display an additional 15 minutes worth of archived data.

14.   Upon initial selection of the REVUE-SENSR-12-HR function, the first page of 12-hour archive sensor data is presented. See figure 3-69. This page contains selected 1-minute archived sensor data for a 12-minute period. The most recent 1-minute archived data are shown at the bottom of the display, with older data arrayed above it. The display page contains columns for 3 visibility sensors and their associated photometers. For systems where multiple visibility sensors are not configured, the unnecessary columns will contain blanks.

The page also contains columns for the 2-minute wind speed and direction computed each minute, the maximum 5-second wind speed and direction observed during each minute, and the data obtained from the RVR interface.

15.   The user may page through the other 12-hour archive sensor data display pages by using the PAGE function key. The PAGE function works in a circular fashion.

16.   The second 12-hour archive sensor data display page contains selected 1-minute archived sensor data for a 12-minute period. See figure 3-70. The most recent 1-minute archived data are shown at the bottom of the display, with older data arrayed above it. The display page contains columns for present weather identifier, lightning (thunderstorm) occurrence, precipitation amount, sunshine, snow depth, freezing rain sensor frequency, pressure sensor data for each of the pressure sensors, ambient temperature, and dew point temperature.

17.   The third 12-hour archive sensor data display page contains archived 15-minute precipitation amount data for a 12-hour period. See figure 3-71.

18.   The fourth 12-hour archive sensor data display page contains archived ceilometer data for the primary ceilometer for a 4-minute period. See figure 3-72. If multiple ceilometers are configured in the system, additional 12-hour archive sensor data display pages are provided for the second and possible third ceilometers. See figure 3-73.

19.   The TIME function may be used to enter a time of day in HHMM format (where HH = 00 through 23 and MM = 00 through 59) for any minute in the past 12 hours. The time is entered in UTC and is used to search the 12-hour archive sensor data files to access the corresponding sensor data. If sensor data corresponding to the entered time are found in the archive file, it will be displayed in the first row of the sensor data display pages, and successively more recent 12-hour archive data will be used to fill up the screen. If no 12-hour archive sensor data are found for the entered time, an error message indicating "NO ENTRY FOR THAT TIME" will be displayed, and the contents of the current screen will not change.

20.   Upon selection of the REVUE-SENSR-STAT function the STATUS display page is presented. All level users except air traffic control specialists may print the current page by selecting PRINT. The PREV and NEXT functions are used to move to the desired sensor and the PROC function is used to toggle the report processing ON/OFF. If more than eleven sensors are configured, then PAGE is used to page through all sensors. BACK will return the user to the SENSR function keypad. EXIT will terminate the function and return the user to the 1-Minute Screen. See figures 3-67 and 3-68.

3.2.5.5.6 *Termination.*   The REVUE-SENSR-EXIT function, or the EXIT function for any of the REVUE-SENSR functions (DATA, STAT, and 12HR), is used to terminate the REVUE-SENSR function and return the user to the 1-Minute Screen.

3.2.5.5.7 *Restart.*   Selecting REVUE from the 1-Minute Screen and then selecting SENSR from the REVIEW menu screen will restart the REVUE-SENSR function.

3.2.5.5.8 *Outputs.*   Outputs of the REVUE-SENSR function are:

Hard copy prints of current sensor data, 12-hour archived sensor data, and sensor status display pages selected by the user.

3.2.5.5.9 *Interrelationship.* Changes made in the sensor configuration (REVUE-SITE-CONFG-SENSR) by technician and system manager will affect system operations. If the sensor is deconfigured, no further sensor data requests will be made by the communications interface software. The 1-minute observation for a sensor which is deconfigured will be M (for missing) and no sensor data will be stored in the 12-hour sensor data archive. Reconfiguring the sensor will cause the communications interface software to resume making sensor data requests at times scheduled by the ACU real-time executive. <u>NOTE</u>: If a sensor is deconfigured and then reconfigured, it will be necessary to turn ON the report processing status for the sensor. When a sensor is newly configured, its report processing will be OFF.

Changes made to sensor report processing status (REVUE-SENSR-STAT) by the observer, air traffic control specialist, technician, and system manager will affect system operations. If sensor report processing status is turned OFF, the sensor processing software substitutes M (missing) for the normal algorithm output to the sensor's 1-minute observation report. Turning sensor report processing status ON will cause the normal algorithm output to be restored when the appropriate amount of good data are available for processing. Once the data are available they are used for the sensor's 1-minute observation report, unless superseded by manually entered data. <u>NOTE</u>: While report processing status is OFF, sensor data are collected and stored in the 12-hour archive within brackets, e.g., [38].

3.2.5.6 **REVUE-SYSLG Function.** The REVUE-SYSLG function provides access to the internal system maintenance log that contains both automatically-generated and manually-entered maintenance information notes for the previous 31 days and the current day. All AFOS interface status messages are entered in this log. It also contains entries of all sign on/off actions by technician and system manager level users for this time period. Any ASOS user may review and print the system maintenance log data without the requirement of being signed on. Users signed on at the air traffic control specialist level do not have access to the system maintenance log. Users signed on at the system manager and technician level may generate entries in the system maintenance log. Figure 3-74 shows the REVUE-SYSLG screen.   The help screen may be accessed by pressing the HELP key on the function keypad or the zero key (0) on the auxiliary keypad.

3.2.5.6.1 *Initialization.* The 1-Minute Screen must be displayed to access the REVUE-SYSLG function.

3.2.5.6.2 *Execution Options.* After selecting the REVUE function key from the 1-Minute Screen and the SYSLG function key from the REVIEW menu screen, the user is presented with the following selectable REVUE-SYSLG functions:

PRINT -   Causes the displayed system maintenance log page to be printed.

DATE -   Prompts the user to supply a month, day, and year (LST) to use in searching for a system maintenance log entry to start the screen of displayed log entries.

PREV -   Pages back 4 maintenance log entries. Causes display of older log entries since the most recent ones are appended to the end of the log.

WRITE -   This function allows manual entries to be appended to the maintenance log and is only available to technician and system manager level users.

FILTR -   Allows portions of the maintenance log specified by error code, date, or recent days to be viewed.

    RESET -   Resets the field to the previous value.

    CLEAR -   Clears the data field with blanks.

PREV -   Moves the cursor to the previous field.

ABORT -   Disregards all changes made since being on this page and returns the user to the 1-Minute Screen.

BACK -   Returns the user to the MAINTENANCE LOG screen initiating the filter.

NEXT -   Moves the cursor to the next field.

EXIT -   Returns the user to the 1-Minute Screen.

BACK -   Returns the user to the REVIEW menu screen.

NEXT -   Pages ahead 4 maintenance log entries. Causes display of newer log entries since the most recent ones are appended to the end of the log.

```
 12:18:51 01/28/98 1318Z                                                STERLING #4
     +))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))),
 *                                                                                    *
 * 01/28/98 12:00   *ST 1391 VISIBILITY SENSOR #1 PHOTOMETER DATA QUALITY           *
 * FAILURE                                                                            *
 *                                                                                    *
 * 01/28/98 12:04   RNP 9999 RNP LOGGED ON AS TECHNICIAN FROM OID#2                  *
 *                                                                                    *
 *                                                                                    *
 * 01/28/98 12:06   RNP 9999 RNP LOGGED OFF AS TECHNICIAN FROM OID#2                 *
 *                                                                                    *
 *                                                                                    *
 * 01/28/98 12:17   RNP 9999 RNP LOGGED ON AS TECHNICIAN FROM OID#2                  *
 *                                                                                    *
 *                                                                                    *
 *                                                                                    *
 *                                                                  MAINTENANCE LOG *
  *                                                                +)))))0)))))0)))))1
 *                                                                *PRINT*DATE *PREV *
  *                                                               /)))))3)))))3)))))1
 *                                                                *WRITE*FILTR*      *
  *                                                               /)))))3)))))3)))))1
 *                                                                *EXIT *BACK *NEXT *
     .)))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))2)))))2)))))2)))))-
```

Figure 3-74. REVUE-SYSLG
(All User Levels Except the Air Traffic Control Specialist)

3.2.5.6.3   *User Inputs.*   User inputs to the REVUE-SYSLG function are:

1.   If DATE is selected, the user is prompted to enter the date in the format MM/DD/YY (where MM = 01 through 12, DD = 01 through 31, and YY = 00 through 99) to be used in the search for a log entry to start a screen of log entries. The date is entered with respect to Local Standard Time (LST). If any value entered is outside of its range, an error message is displayed to prompt the user for an acceptable input value.

2.   If WRITE is selected, the user can enter a manual entry in the maintenance log consisting of a maximum of four lines of 50 characters each.

3.2.5.6.4   *System Inputs.*   System inputs for the REVUE-SYSLG function include:

1.   System maintenance log file.

2.   User level of current signed-on user.

3.2.5.6.5   *Execution.*   The procedures for executing the REVUE-SYSLG function are:

1.   When the REVUE-SYSLG function key is selected, the MAINTENANCE LOG screen is displayed with the four most recent maintenance log entries.

2.   The PRINT function key may be selected at any time to print the displayed entries.

3.   The user may page through the file by using the PREV and NEXT function keys. PREV will page back in time and accumulate a screen consisting of 4 maintenance log entries that were recorded immediately before the oldest log entry on the current screen. NEXT pages forward in time up to the most recent log entry entered in the system maintenance file.

4.   The DATE function key prompts the user to enter a month, day, and year (LST) to search for in the log. If a maintenance entry is found that matches the month, day, and year or is the first log entry after the entered date, then that log entry becomes the first in the series of four consecutive log entries displayed on the screen. If the date provided is not within the current range of dates in the log, a message is displayed indicating that "NO LOG ENTRY WITH THAT DATE FOUND."

5.   The REVUE-SYSLG-FILTR function key prompts the user to enter maintenance codes, e.g., 9999, specific dates, e.g., 07/01/96, 07/05/96, or recent days, e.g., 5, to search for in the maintenance log. To use the recent days feature, enter a specific code, or range of codes, and then enter the past number of recent days you wish to be searched for that code(s). After entering the appropriate information the BACK key must be selected to initiate the filter. If a match is found, then that portion of the maintenance log is displayed on the screen. If no match is found the user is returned to the REVUE-SYSLG page and the message "NO DATA MATCHING FILTER" is displayed. The REVUE-SYSLG-FILTR is available to the unsigned user, technician, and system manager user levels. See figure 3-75. The help screen may be accessed by pressing the HELP key on the function keypad or the zero key (0) on the auxiliary keypad.

```
 12:19:00 01/28/98 1319Z                                              STERLING #4
     +)))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))),
 *                                                                               *
 *                          SYSLOG FILTER PAGE                                   *
 *                                                                               *
 *                                                                               *
 *   CODE(S):                                                                    *
 *                                                                               *
 *     AND                                                                       *
 *                                                                               *
 *   DATE(S):                                                                    *
 *                                                                               *
 *     AND                                                                       *
 *                                                                               *
 *   RECENT DAYS:                                                                *
 *                                                                               *
 *                                                            SYSLOG FILTER   *
  *                                                          +)))))0)))))0)))))1
 *                                                          *RESET*CLEAR*PREV *
  *                                                          /)))))3)))))3)))))1
 *                                                          *     *     *ABORT*
  *                                                          /)))))3)))))3)))))1
 *                                                          *     *BACK *NEXT *
    .))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))2)))))2)))))2)))))-
```
Figure 3-75. REVUE-SYSLG-FILTR
(Unsigned, Technician, and System Manager Level Users Only)

6.   The REVUE-SYSLG-WRITE function, available only to technician and system manager level users, allows free form entry of a message that will be stored in the system maintenance file. Each manually entered message may be a maximum of 200 characters. When the WRITE function key is selected, the WRITE function template is displayed, containing the following labeled function keys: ABORT, EXIT and BACK. See figure 3-76. The help screen may be accessed by pressing the HELP key on the function keypad or the zero key (0) on the auxiliary keypad.

7.   The REVUE-SYSLG-EXIT function terminates the REVUE function and returns the user to the 1-Minute Screen.

```
 12:20:27 01/28/98 1320Z                                                    STERLING #4
     +))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))),
 *                                                                                     *
 * 01/28/98         12:20                                                              *
 *                                                                                     *
 *                                                                                     *
 *                                                                                     *
 *                                                                                     *
 *          THIS IS A TEST MESSAGE.                                                    *
 *                                                                                     *
 *                                                                                     *
 *                                                                                     *
 *                                                                                     *
 *                                                                                     *
 *                                                                                     *
 *                                                                                     *
 *                                                                  MAINTENANCE LOG *
  *                                                                +)))))0)))))0)))))1
 *                                                                 *     *     *     *
  *                                                               /)))))3)))))3)))))1
 *                                                                 *     *   *ABORT*
  *                                                               /)))))3)))))3)))))1
 *                                                                 *EXIT *BACK *     *
     .))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))2)))))2)))))2)))))-
```
Figure 3-76. REVUE-SYSLG-WRITE
(Technician and System Manager Level Users Only)

3.2.5.6.6 *Termination.*   The REVUE-SYSLG-EXIT function terminates the REVUE-SYSLG function and returns the user to the 1-Minute Screen.

3.2.5.6.7 *Restart.*   Selecting REVUE from the 1-Minute Screen and then selecting SYSLG from the REVIEW menu screen will restart the REVUE-SYSLG function.

3.2.5.6.8 *Outputs.*   Outputs of the REVUE-SYSLG function are:

1.   Hard copy prints of the system maintenance log entries selected by the user.

2.   Manually-entered message (no more than 200 characters) written by technician and system manager level users to be appended to the log.

3.2.5.6.9 *Interrelationship.*   The system maintenance log provides a 31-day journal of system activities related to maintenance. Automatic entries are made in the maintenance log whenever a failure or out-of-tolerance value is detected by the continuous self-test function. In addition, the weather reporting algorithms may make automatic entries in the log if sensor data values are such that the sensor reported output is marked as missing. When a sensor is configured/deconfigured and when report processing for a sensor is turned-on or -off, an entry is made in the log. Also, the SIGN function generates system maintenance log entries of all sign on/off actions by technician and system manager level users. Technician and system manager level users may make free-form multi-line entries in the log to leave messages for observers or other users, or for any other related purpose.

3.2.5.7 **REVUE-COMLG Function.**   The REVUE-COMLG function provides access to the internal system communications log that contains automatically-generated messages for the previous 31 days and the current day. This log contains messages that specifically address ADAS and RVR interface conditions. (AFOS interface status messages are entered in the system maintenance log, i.e., SYSLG). Any ASOS user may review and print the log data without the requirement of being signed on. Users signed on at the air traffic control specialist level do not have access to the communications log. Figure 3-77 shows the REVUE-COMLG screen. The help screen may be accessed by pressing the HELP key on the function keypad or the zero key (0) on the

auxiliary keypad.

```
 12:16:17 01/28/98 1316Z                                             STERLING #4
     +)))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))),
 *                                                                                *
 * 01/27/98 10:28 *ST 1966 ADAS PORT IS ADAS PRIMARY.                             *
 *                                                                                *
 *                                                                                *
 * 01/27/98 11:10 *ST 1971 NO POLL FROM ADAS.  ADAS-ASOS LINK DOWN.               *
 *                                                                                *
 *                                                                                *
 * 01/27/98 15:02 *ST 1971 NO POLL FROM ADAS.  ADAS-ASOS LINK DOWN.               *
 *                                                                                *
 *                                                                                *
 * 01/27/98 15:20 *ST 1971 NO POLL FROM ADAS.  ADAS-ASOS LINK DOWN.               *
 *                                                                                *
 *                                                                                *
 *                                                                                *
 *                                                       COMMUNICATIONS LOG*
  *                                                      +)))))0)))))0)))))1
 *                                                       *PRINT*DATE *PREV *
  *                                                      /)))))3)))))3)))))1
 *                                                       *     *     *     *
  *                                                      /)))))3)))))3)))))1
 *                                                       *EXIT *BACK *NEXT *
     .)))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))2)))))2)))))2)))))-
```
Figure 3-77. REVUE-COMLG
(All User Levels Except Air Traffic Control Specialist)

3.2.5.7.1 *Initialization.* The 1-Minute Screen must be displayed to access the REVUE-COMLG function.

3.2.5.7.2 *Execution Options.* After selecting the REVUE function key from the 1-Minute Screen and the COMLG function key from the REVIEW menu screen, the user is presented with the following selectable REVUE-COMLG functions:

PRINT -   Causes the displayed communications log page to be printed.

DATE -   Prompts the user to supply a month, day, and year (LST) to use in searching for a log entry to start the screen of displayed entries.

PREV -   Pages back 4 communications log entries. Causes display of older log entries since the most recent ones are appended to the end of the log.

FILTR -   Allows portions of the communications log specified by error code, date, or recent days to be viewed.

    RESET -   Resets the field to the previous value.

    CLEAR -   Clears the data field with blanks.

    PREV -   Moves the cursor to the previous field.

    ABORT -   Disregards all changes made since being on this page and returns the user to the 1-Minute Screen.

BACK -   Returns the user to the REVIEW-COMLG screen initiating the filter.

NEXT -   Moves the cursor to the next field.

EXIT -   Returns the user to the 1-Minute Screen.

BACK -   Returns the user to the REVIEW menu screen.

NEXT -   Pages ahead 4 communications log entries. Causes display of newer log entries since the most
              recent ones are appended to the end of the log.

3.2.5.7.3   *User Inputs.*   User inputs to the REVUE-COMLG function are:

1.   If DATE is selected, the user is prompted to enter the date in the format MM/DD/YY (where MM
          = 01 through 12, DD = 01 through 31, and YY = 00 through 99) to be used in the search for a log
          entry to start a screen of log entries. The date is entered with respect to Local Standard Time
          (LST). If any value entered is outside of its range, an error message is displayed to prompt the
          user for an acceptable input value.

3.2.5.7.4   *System Inputs.*   System inputs for the REVUE-COMLG function include:

1.   System communications log file.

2.   User level of current signed-on user.

3.2.5.7.5   *Execution.*   The procedures for executing the REVUE-COMLG function are:

1.   When the REVUE-COMLG function key is selected, the COMMUNICATIONS LOG screen is
          displayed with the four most recent log entries.

2.   The PRINT function key may be selected at any time to print the displayed entries.

3.   The user may page through the file by using the PREV and NEXT function keys. PREV will
          page back in time and accumulate a screen consisting of 4 communications log entries that were
          recorded immediately before the oldest log entry on the current screen. NEXT pages forward in
          time up to the most recent log entry entered in the communications file.

4.   The DATE function key prompts the user to enter a month, day, and year (LST) to search for in
          the log. If a communications entry is found that matches the month, day, and year or is the first
          log entry after the entered date, then that log entry becomes the first in the series of four
          consecutive log entries displayed on the screen. If the date provided is not within the current
          range of dates in the log, a message is displayed indicating that "NO LOG ENTRY WITH THAT
          DATE FOUND."

5.   The REVUE-COMLG-FILTR function key prompts the user to enter communications codes, e.g.,
          1966, specific dates, e.g., 07/01/96, 07/05/96, or recent days, e.g., 5, to search for in the
          communications log. To use the recent days feature first enter a code, or range of codes, and then
          enter the number of recent days from the current day that should be searched. After entering the
          appropriate information the BACK key must be selected to initiate the filter. If a match is found,
          then that portion of the communications log is displayed on the screen. If no match is found the
          user is returned to the REVUE-COMLG page and the message "NO DATA MATCHING

FILTER" is displayed. The REVUE-COMLG-FILTR is available to the technician, system manager, and unsigned user levels.

6.   The REVUE-COMLG-EXIT function terminates the REVUE function and returns the user to the 1-Minute Screen.

3.2.5.7.6 *Termination.* The REVUE-COMLG-EXIT function terminates the REVUE-COMLG function and returns the user to the 1-Minute Screen.

3.2.5.7.7   *Restart.*   Selecting REVUE from the 1-Minute Screen and then selecting COMLG from the REVIEW menu screen will restart the REVUE-COMLG function.

3.2.5.7.8 *Outputs.* Outputs of the REVUE-COMLG function are:

1.   Hard copy prints of the system communications log entries selected by the user.

3.2.5.7.9 *Interrelationship.* The system communications log provides a 31-day journal of system activities related to ADAS and the RVR interface. Automatic entries are made in the log whenever a failure or restoration is detected in the ADAS and RVR interfaces.

3.2.5.8 **REVUE-EDTLG Function.** The REVUE-EDTLG function provides access to the internal system edit log. The log contains all observer and air traffic control specialist editing activities accomplished through the EDIT and TWR functions. The log entries will contain both the manually-entered changes to the automated field and the automated entry that was overwritten. Manually generating and automatically canceling of SPECI reports are recorded. The observer actions of canceling and transmitting a pending SPECI before the edit time expires are also entered. Only those signed on the system may view the log. Users signed on at the air traffic control specialist level do not have access to the PRINT function. At least 10 days of the above mentioned actions will be stored. Figure   3-78 shows the REVUE-EDTLG screen. The help screen may be accessed by pressing the HELP key on the function keypad or the zero key (0) on the auxiliary keypad.

```
 12:21:35 01/28/98 1321Z                                              STERLING #4
    +))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))),
*01/28/98 03:50:22 AUTO SPCL OBS CANCELED SPECI KST2 280450Z AUTO                 *
*03011G19KT 4SM +RA BR OVC013 03/03 A2993 RMK AO2 P0015 $                         *
*01/28/98 04:21:22 AUTO SPCL OBS CANCELED SPECI KST2 280520Z AUTO                 *
*04014G20KT 5SM RA BR SCT010 OVC015 03/03 A2990 RMK AO2 P0005 $                   *
*01/28/98 05:48:22 AUTO SPCL OBS CANCELED SPECI KST2 280647Z AUTO                 *
*04014G23KT 4SM RA BR FEW008 BKN013 OVC018 03/02 A2983 RMK AO2 P0009 $            *
*01/28/98 05:50:22 AUTO SPCL OBS CANCELED SPECI KST2 280650Z AUTO                 *
*03016G21KT 4SM RA BR FEW008 BKN013 OVC018 03/02 A2983 RMK AO2 P0009 $            *
*01/28/98 05:56:22 AUTO SPCL OBS CANCELED METAR KST2 280655Z AUTO                 *
*04015G21KT 4SM RA BR FEW008 OVC013 03/02 A2984 RMK AO2 SLP105 P0010              *
*T00280022 $                                                                      *
*01/28/98 07:33:22 AUTO SPCL OBS CANCELED SPECI KST2 280832Z AUTO                 *
*03013G24KT 6SM RA BR SCT008 BKN013 OVC019 02/02 A2977 RMK AO2 P0007 $            *
*01/28/98 11:54:21 EDITED RVR AUTO RVRNO EDIT R28L/P6000FT                        *
*                                                              EDIT LOG           *
 *                                                        +)))))0)))))0)))))1
*                                                        *PRINT*DATE *PREV *
 *                                                        /)))))3)))))3)))))1
*                                                        *     *     *     *
 *                                                        /)))))3)))))3)))))1
*                                                        *EXIT *BACK *NEXT *
    .)))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))2)))))2)))))2)))))-
```
Figure 3-78. REVUE-EDTLG
(Observer, Air Traffic Control Specialist, System Manager, and Technician User Levels)

3.2.5.8.1   *Initialization.*   The 1-Minute Screen must be displayed to access the REVUE-EDTLG function.

3.2.5.8.2   *Execution Options.*   After selecting the REVUE function key from the 1-Minute Screen and the EDTLG function key from the REVIEW menu screen, the user is presented with the following selectable REVUE-EDTLG functions:

PRINT -   Causes the displayed edit log page to be printed.

DATE -   Prompts the user to supply a month, day, and year (LST) to use in searching for a log entry to start the screen of displayed entries.

PREV -   Pages back through the edit log entries. Causes display of older log entries since the most recent ones are appended to the end of the log.

EXIT -   Returns the user to the 1-Minute Screen.

BACK -   Returns the user to the REVIEW menu screen.

NEXT -   Pages ahead through the edit log entries. Causes display of newer log entries since the most recent ones are appended to the end of the log.

3.2.5.8.3   *User Inputs.*   User inputs to the REVUE-EDTLG function are:

    1.   If DATE is selected, the user is prompted to enter the date in the format MM/DD/YY (where MM = 01 through 12, DD = 01 through 31, and YY = 00 through 99) to be used in the search for a log entry to start a screen of log entries. The date is entered with respect to Local Standard Time (LST). If any value entered is outside of its range, an error message is displayed to prompt the user for an acceptable input value.

3.2.5.8.4   *System Inputs.*   System inputs for the REVUE-EDTLG function include:

1.   System edit log file.

2.   User level of current signed-on user.

3.2.5.8.5   *Execution.*   The procedures for executing the REVUE-EDTLG function are:

1.   When the REVUE-EDTLG function key is selected, the EDIT LOG screen is displayed with the most recent log entries.

2.   The PRINT function key may be selected at any time to print the displayed entries.

3.   The user may page through the file by using the PREV and NEXT function keys. PREV will page back in time and NEXT will page forward in time up to the most recent log entry.

4.   The DATE function key prompts the user to enter a month, day, and year (LST) to search for in the log. If an entry is found that matches the month, day, and year or is the first log entry after the entered date, then that log entry becomes the first log entry on the screen. If the date provided is not within the current range of dates in the log, a message is displayed indicating that "NO LOG ENTRY WITH THAT DATE FOUND."

5.   The REVUE-EDTLG-EXIT function terminates the REVUE function and returns the user to the 1-Minute Screen.

3.2.5.8.6   *Termination.*   The REVUE-EDTLG-EXIT function terminates the REVUE-EDTLG function and returns the user to the 1-Minute Screen.

3.2.5.8.7   *Restart.*   Selecting REVUE from the 1-Minute Screen and then selecting EDTLG from the REVIEW menu screen will restart the REVUE-EDTLG function.

3.2.5.8.8   *Outputs.*   Outputs of the REVUE-EDTLG function are:

1.   Hard copy prints of the system edit log entries selected by the user.

3.2.5.8.9   *Interrelationship.*   The edit log provides a record of data entry and SPECI generation activities for a period of at least 10 days.

3.2.6 **GENOB Function.**

The GENOB function allows users to manually generate a SPECI report from the current 1-minute data and for tornadic activity. Only the observer and air traffic control specialist level users may access the GENOB function. See figure 3-79 for the GENOB screen. The help screen may be accessed by pressing the HELP key on the function keypad or the zero key (0) on the auxiliary keypad.

```
 12:24:03 01/28/98 1324Z                                              STERLING #4
    +))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))),
 *  SKY       = OVC013                                                          *
 *                                                                             *
 *  VISIBILITY = 4SM                    TEMP/DEWPT  = 1.7 /1.1   C  35 /34   F*
 ** RVR        = R28L/P6000FT           WIND DIR/SPD = 020/14G22 350V080        *
 *  PRESENT WX = RA BR                  ALTIMETER   = 29.73                     *
 *                                                                             *
 *  REMARKS    = RMK AO2 P0004                                                  *
 *                                                                             *
 *                                                                             *
 *METAR KST2 281256Z 02014G20KT 360V060 6SM RA BR OVC011 02/01 A2973 RMK AO2   *
 *SLP069 P0013 T00170011 $                                                      *
 *                                                                             *
 *                                                                             *
 *                                                                             *
 *                                                        GENERATE OBS    *
  *                                                       +)))))0)))))0)))))1
 *                                                       *TRNDO*WTRSP*FUNNL*
  *                                                       /)))))3)))))3)))))1
 *                                                       *     * REM *ABORT*
  *                                                       /)))))3)))))3)))))1
 *                                                       *XMIT *EDIT *SPEC *
    .)))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))2)))))2)))))2)))))-
```
Figure 3-79. GENOB Function
(Observer and Air Traffic Control Specialist Level Users Only)

3.2.6.1 **Initialization.** The 1-Minute Screen must be displayed to access the GENOB function.

3.2.6.2 **Execution Options.** After selecting the GENOB function key from the 1-Minute Screen, the user is presented with the following functions:

TRNDO -   Generates a SPECI for a tornado using the current 1-minute data and prompts user for entry of appropriate remarks.

WTRSP -   Generates a SPECI for a waterspout using the current 1-minute data and prompts user for entry of appropriate remarks

FUNNL -   Generates a SPECI for a funnel cloud using the current 1-minute data and prompts user for entry of appropriate remarks

REM -   Allows the user to add/edit additional manual/tornadic remarks and turn-off/turn-on automated remarks

        NOTES: (1) The GENOB-REM function is only active when a tornadic SPECI event is occurring, i.e., +FC or FC is encoded in the PRESENT WX on the 1-Minute Screen.

              (2) The GENOB-SPEC-EDIT-REM is available any time, except during the edit time of the hourly METAR or SPECI report.

ABORT -   Allows user to abort any function performed. It clears any SPECI in the process of being generated, immediately exits the GENOB function, and returns the user to the 1-Minute Screen.

XMIT -   Allows user to transmit any SPECI report that has been manually generated.

EDIT -   Allows user access to the primary EDIT function from within the GENOB function.

                NOTE: Only allowed during GENOB-SPEC function operations, i.e., GENOB-EDIT is not
                       allowed.

SPEC -   Generates a SPECI report using the current 1-minute data.

3.2.6.3 **User Inputs.** User inputs to the GENOB function are:

   1.   Selection of function from the GENOB function template.

   2.   Free form entry of appropriate remarks for tornadic SPECI reports, i.e., TRNDO, WTRSP, or
           FUNNL. The remarks field allows 100 characters.

   3.   Selection of EDIT functions to change the current 1-minute data used for the generated SPECI
           before transmitting it.

3.2.6.4 **System Inputs.** System inputs for the GENOB function include:

   1.   Tornadic SPECI, i.e., TRNDO, WTRSP, or FUNNL, reports using the 1-minute data.

   2.   SPECI reports using the current 1-minute data, i.e., GENOB-SPEC function.

   3.   User level of current signed-on.

3.2.6.5 **Execution.**   The procedures for executing the GENOB function are:

   1.   Select the GENOB function key from the 1-Minute Screen.

   2.   Observer and air traffic control specialist level users may select the appropriate GENOB function
           key to generate the desired tornadic SPECI report, i.e., TRNDO, WTRSP, or FUNNL.

   3.   A SPECI report is automatically generated and transmitted when the SPEC function is selected,
           followed by the XMIT function, i.e., GENOB-SPEC-XMIT.

   4.   Tornadic SPECIs must be generated in pairs, i.e., one SPECI marks the beginning of an event
           and another SPECI marks the end of the event. While any of the three possible tornadic SPECI
           events is in progress, neither of the other two types of tornadic SPECIs may be selected.

   5.   For tornadic SPECIs, select TRNDO, WTRSP, or FUNNL to mark the beginning of an event and
           to cause automatic generation of the begin time remark. Once transmitted, the remark is entered
           in the REMARKS field on the 1-Minute Screen and it contains the name of the tornadic SPECI
           event, i.e., TORNADO, WATERSPOUT, or FUNNEL CLOUD, followed by the time the event
           began, and any user entered remarks. The user has a total of 100 characters in which to enter a
           remark. In addition, the appropriate tornadic designation (FC or +FC) is automatically included
           in the PRESENT WX field of the 1-Minute Screen. See figure 3-80.

           If additional remarks are later needed for this event, select GENOB-REM and add the additional
           remark. Note that changing the remarks will generate another SPECI for the event. ASOS will
           display the message "CHANGING TORNADIC REMARKS WILL GENERATE AN
           UNSCHEDULED OBS" at the bottom of the screen. See figure 3-81.

```
12:29:59 01/28/98 1329Z                                              STERLING #4
    +))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))),
 *  SKY       = BKN013 OVC017                                                  *
 *                                                                             *
 *  VISIBILITY = 4SM                      TEMP/DEWPT  = 1.7  /1.1   C  35 /34  F*
 ** RVR       = R28L/P6000FT              WIND DIR/SPD = 020/15G20 360V070      *
 *  PRESENT WX = +FC RA BR               ALTIMETER    = 29.73                   *
 *                                                                             *
 *  REMARKS    = RMK TORNADO B24 MULTIPLE TORNADOES SW MOV NE AO2              *
 *              P0005                                                          *
 *                                                                             *
 *SPECI KST2 281328Z 02015G22KT 360V070 4SM +FC RA BR BKN013 OVC017 02/01 A2973 *
 *RMK TORNADO B24 MULTIPLE TORNADOES SW MOV NE AO2 P0005 $                      *
 *                                                                             *
 *SPECI GENERATION                                                             *
 *                                                                             *
 *               TORNADIC REMARK                          GENERATE OBS    *
 *                                                   +)))))0))))) 0)))))1
 *  TORNADO B24 MULTIPLE TORNADOES SW MOV NE TORNADO     *TRNDO*WTRSP*FUNNL*
 *  E29                                                  /)))))3)))))3)))))1
 *                                                       *      * REM *ABORT*
 *      DO YOU WANT TO TRANSMIT (Y OR N)?                /)))))3)))))3)))))1
 *                                                       *XMIT *EDIT *SPEC *
   .)))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))2)))))2)))))2)))))-
```

Figure 3-80. GENOB-TRNDO Function - Ending The Event
(Observer and Air Traffic Control Specialist Level Users Only)

6.   To end a tornadic SPECI, select the currently occurring event, i.e., TRNDO, WTRSP, or FUNNL, to mark the end of the event.

7.   If the user decides to abandon the generation of the SPECI report, select ABORT. This returns the user to the 1-Minute Screen and terminates the GENOB function.

8.   If the user decides that it is necessary to change the 1-minute data displayed on the 1-Minute Screen, select EDIT to make the necessary changes. The EDIT key can only be selected after the SPEC key. Upon EXIT from the EDIT function, the SPECI report is transmitted and displayed on the 1-Minute Screen.

        NOTE: EDIT may only be used from the GENOB function after the SPEC function has been selected. The proper sequence of function keys to use is: GENOB-SPEC-EDIT (make necessary changes) -EXIT.

```
 12:26:35 01/28/98 1326Z                                              STERLING #4
    +))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))),
 *  SKY        = OVC013                                                          *
 *                                                                              *
 *  VISIBILITY = 4SM                      TEMP/DEWPT   = 1.7  /1.1   C  35 /34  F*
 ** RVR        = R28L/P6000FT             WIND DIR/SPD = 020/14G22               *
 *  PRESENT WX = +FC RA BR                ALTIMETER    = 29.73                   *
 *                                                                              *
 *  REMARKS    = RMK TORNADO B24 AO2 P0004                                      *
 *                                                                              *
 *                                                                              *
 *SPECI KST2 281325Z 02013G22KT 4SM +FC RA BR OVC013 02/01 A2973 RMK TORNADO B24*
 * AO2 P0004 $                                                                  *
 *                                                                              *
 *SPECI GENERATION                                                              *
 *                                                                              *
 *                  TORNADIC REMARK                          GENERATE OBS       *
  *                                                         +)))))0)))))0)))))1
 *   TORNADO B24                                            *TRNDO*WTRSP*FUNNL*
  *                                                         /)))))3)))))3)))))1
 *                                                         *     * REM *ABORT*
  *                                                         /)))))3)))))3)))))1
 *CHANGING TORNADIC REMARKS WILL GENERATE AN UNSCHEDULED OBS *XMIT *EDIT *SPEC *
    .)))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))2)))))2)))))2)))))-
```

Figure 3-81. GENOB-REM Function - Adding Remarks For Tornadic Event
(Observer and Air Traffic Control Specialist Level Users Only)

    9.   When the manually-generated SPECI data are correct, and the user is ready to transmit and store the SPECI, select the XMIT function. This returns the user to the 1-Minute Screen, terminates the GENOB function, and transmits and stores the manually-generated SPECI. The user is requested to respond to a "DO YOU WANT TO TRANSMIT (Y OR N)?" question when a tornadic SPECI is generated.

3.2.6.6 **Termination.** The functions ABORT, EXIT, and XMIT may be used to terminate the GENOB function. ABORT is used to cancel the action of any GENOB function that has been selected. After GENOB-SPEC-EDIT has been selected, using the EXIT function will transmit the SPECI. If the EDIT function is not used, then the XMIT function will transmit the SPECI report. ABORT, EXIT, and XMIT all terminate the GENOB function and return the user to the 1-Minute Screen.

3.2.6.7 **Restart.** At the 1-Minute Screen, select the GENOB function key to restart the GENOB function.

3.2.6.8 **Outputs.** Outputs of the GENOB function are:

    1.   Tornadic SPECI using the current 1-minute data and observer-generated remarks.

    2.   Manually-generated SPECI reports using the current 1-minute data.

    3.   The reports generated by the GENOB function are appended to the observations archive file. See figure 3-24.

3.2.6.9 **Interrelationship.** The GENOB function provides the means for the observer or air traffic control specialist to manually generate and disseminate SPECI reports. These reports are provided in addition to SPECI reports that are automatically generated by ASOS.

If an hourly METAR report is pending, i.e., within the edit time window before automatic transmission, and the GENOB function is used to manually generate a SPECI, the following procedures are followed:

1. If a tornadic SPECI report is generated by GENOB, then the tornadic SPECI is transmitted immediately, and the hourly is transmitted as scheduled at the end of the edit time. The hourly contains the tornadic information in the present weather and remark fields.

2. If a SPECI report is generated by GENOB, this condition is not allowed and an error message is displayed. The hourly METAR is transmitted as scheduled at the end of the edit time.

If an automatically-generated SPECI report is pending, i.e., within the edit time window before automatic transmission, and the GENOB function is used to manually generate a SPECI, the following procedures are followed:

1. If a tornadic SPECI is generated by GENOB, then replace the pending SPECI, archive it with "FIBI" appended, and transmit the tornadic SPECI immediately. The SPECI report which contains FIBI does not contain the tornadic information in the present weather and remark fields.

2. If a SPECI is generated by GENOB, this condition is not allowed, and an error message is displayed. The original SPECI is transmitted as scheduled at the end of the edit time.

3.2.7 **HOT KEY Function.**

The Hot Key function expedites the generation and transmission of SPECIs for tornado, thunderstorm, and hail, remarks for virga, and the inclusion of volcanic ash as an augment in the PRESENT WX field. Only the air traffic control specialist can use the Hot Key function. Figure 3-82 shows the Hot Key function template at the bottom of the 1-Minute Screen. Figure 3-83 shows the Hot Key Prompt Format using Hail as the specific example.

3.2.7.1 **Initialization.** The 1-Minute Screen must be displayed on the OID for the air traffic control specialist to access the Hot Key function.

3.2.7.2 **Execution Options.** Hot Key functions are executed by pressing the F6 through F10 keys located at the top of the OID keyboard. Table 3-4 identifies the use of each Hot Key.

Table 3-4. Hot Key SPECI Generation

Hot Key	Weather Type	Present Wx	Example Remark	SPECI
F6	Tornado	+FC	TORNADO B01 TORNADO E02	SPECI
F7	Thunderstorm	TS	TSB05E22	SPECI
F8	Hail	GR	GRB00E18	SPECI
F9	Virga	None	VIRGA	None Required
F10	Volcanic Ash	VA	None	None Required

```
12:44:07 01/28/98 1344Z                                          STERLING #4
    +)))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))),
*  SKY        = BKN011 OVC017                                               *
*                                                                           *
** VISIBILITY = 1SM                        TEMP/DEWPT   = 1.7  /1.1   C  35 /34  F*
** RVR        = R28L/P6000FT               WIND DIR/SPD = 020/18G24         *
*  PRESENT WX = +RA BR                     ALTIMETER    = 29.73             *
*                                                                           *
*  REMARKS    = RMK TORNADO B24 MULTIPLE TORNADOES SW MOV NE                *
*                TORNADO E29 AO2 P0008                                      *
*                                                                           *
*SPECI KST2 281342Z 02017G24KT 1SM R28L/P6000FT +RA BR BKN013 OVC017 02/01  *
*A2973 RMK TORNADO B24 MULTIPLE TORNADOES SW MOV NE TORNADO E29 AO2 P0008 $  *
*                                                                           *
*                                                                           *
*                                                                           *
*                                                                           *
 *                                                           +)))))0)))))0)))))1
 *                                                           *     *GENOB* CMD *
 *TSTM DATA AVAILABLE                                        /)))))3)))))3)))))1
 *                                                           *REVUE* TWR *     *
 *                                                           /)))))3)))))3)))))1
 *                                                           *SIGN *EDIT * AUX *
   .))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))2)))))2)))))2)))))-
  F6-TORNADO      F7-THUNDER      F8-HAIL        F9-VIRGA      F10-VOLCANIC ASH
```

Figure 3-82. HOT KEYS (F6 - F10)
(Air Traffic Control Specialist Level User Only)

```
12:44:15 01/28/98 1344Z                                          STERLING #4
    +)))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))),
*  SKY        = BKN011 OVC017                                               *
*                                                                           *
** VISIBILITY = 1SM                        TEMP/DEWPT   = 1.7  /1.1   C  35 /34  F*
** RVR        = R28L/P6000FT               WIND DIR/SPD = 020/18G24         *
*  PRESENT WX = +RA BR                     ALTIMETER    = 29.73             *
*                                                                           *
*  REMARKS    = RMK TORNADO B24 MULTIPLE TORNADOES SW MOV NE                *
*                TORNADO E29 AO2 P0008                                      *
*                                                                           *
*SPECI KST2 281342Z 02017G24KT 1SM R28L/P6000FT +RA BR BKN013 OVC017 02/01  *
*A2973 RMK TORNADO B24 MULTIPLE TORNADOES SW MOV NE TORNADO E29 AO2 P0008 $  *
*                                                                           *
*                                                                           *
*                                                                           *
*                                                                           *
 * YOU HAVE SELECTED THE HAIL HOT KEY.                        +)))))0)))))0)))))1
 * ARE YOU SURE (Y/N)?  N                                     *     *GENOB* CMD *
 *                                                           /)))))3)))))3)))))1
 *                                                           *REVUE* TWR *     *
 *                                                           /)))))3)))))3)))))1
 *                                                           *SIGN *EDIT * AUX *
   .))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))2)))))2)))))2)))))-
  F6-TORNADO      F7-THUNDER      F8-HAIL        F9-VIRGA      F10-VOLCANIC ASH
```

Figure 3-83. HOT KEYS (F6 - F10)
(Air Traffic Control Specialist Level User Only)

3.2.7.3 **User Inputs.** User inputs to the Hot Key function are:

1.   Pressing F6, F7, F8, F9 or F10.

2.   Responding to the system question: ARE YOU SURE (Y OR N)?N

3.2.7.4 **System Inputs.** There are no system inputs for the Hot Key function.

3.2.7.5 **Execution Options.** The procedures for executing a Hot Key function are:

1.   Select the appropriate function key (F6, F7, F8, F9, F10) from the 1-Minute Screen.

2.   The selected Hot Key will flash. The OID will display, "YOU HAVE SELECTED THE xxx HOT KEY. ARE YOU SURE (Y/N)?".

3.   Enter "Y" to transmit the SPECI. Enter "N" to cancel the Hot Key function. Any other response except "Y" will cancel the Hot Key function. <u>NOTE</u>: It is not necessary to use the <RETURN> key after "Y" or "N" has been entered.

3.2.7.6 **Termination.** Pressing any response except "Y" will terminate the Hot Key function.

3.2.7.7 **Restart.** Selecting one of the appropriate function keys (F6, F7, F8, F9, F10) from the 1-Minute Screen will restart the Hot Key function.

3.2.7.8 **Outputs.** Outputs of the Hot Key function are shown in table 3-4.

3.2.7.9 **Interrelationship.** The Hot Key function has the following interrelationships:

1.   Pressing the F6 function key (Tornado) generates a SPECI, adds a tornadic begin/end remark, and encodes "+FC" in the PRESENT WX field.

2.   Pressing the F7 function key (Thunderstorm) generates a SPECI, adds a thunderstorm begin/end remark, and encodes "TS" in the PRESENT WX field.

3.   Pressing the F8 function key (Hail) generates a SPECI, adds a hail begin/end remark, and encodes "GR" in the PRESENT WX field.

4.   Pressing the F9 function key (VIRGA) generates a remark.

        NOTE: After the next hourly METAR report is transmitted, the VIRGA remark will be automatically removed from the REMARKS field. If VIRGA continues to be observed, the F9 Hot Key can be used to re-enter the remark.

5.   Pressing the F10 function key (Volcanic Ash) encodes "VA" in the PRESENT WX field.

3.2.8 <u>**AUX Function.**</u>

The AUX function controls what is displayed on the auxiliary portion, or lower half, of the 1-Minute Screen. All ASOS users, whether signed on or not, may access and use the AUX function. Figure 3-84 shows the AUX screen.   The help screen may be accessed by pressing the HELP key on the function keypad or the zero key (0) on the auxiliary keypad. If the observer or air traffic control specialist is signed on, and if there is a change in

the availability of present weather data from the sensors, then the displayed AUX field will be replaced by the data availability message(s). The observer will have data availability messages from the precipitation identifier and freezing rain sensors, as well as the lightning sensor / lightning detection network. The air traffic control specialist is only notified of changes in the availability of lightning data.

```
 12:46:19 01/28/98 1346Z                                           STERLING #4
     +))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))),
 *  SKY       = BKN011 OVC017                                                  *
 *                                                                             *
 ** VISIBILITY = 1SM                      TEMP/DEWPT  = 1.7 /1.1   C  35 /34  F*
 ** RVR        = R28L/P6000FT             WIND DIR/SPD = 020/17G24             *
 *  PRESENT WX = +RA BR                   ALTIMETER   = 29.73                  *
 *                                                                             *
 *  REMARKS    = RMK TORNADO B24 MULTIPLE TORNADOES SW MOV NE                  *
 *              TORNADO E29 AO2 P0009                                          *
 *                                                                             *
 *SPECI KST2 281342Z 02017G24KT 1SM R28L/P6000FT +RA BR BKN013 OVC017 02/01    *
 *A2973 RMK TORNADO B24 MULTIPLE TORNADOES SW MOV NE TORNADO E29 AO2 P0008 $    *
 *                                                                             *
 *                                                                             *
 *                                                                             *
 *                                                                    AUX      *
  *                                                          +)))))0)))))0)))))1
 *                                                          *PRINT* WX  * MAN *
  *                                                         /)))))3)))))3)))))1
 *                                                          *USERS*      *ABORT*
  *                                                         /))))3)))))3)))))1
 *                                                          *EXIT *   * OFF *
     .))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))2)))))2)))))2)))))-
```
Figure 3-84. AUX Screen
(All Users)

3.2.8.1 **Initialization.** The 1-Minute Screen must be displayed to access the AUX function.

3.2.8.2 **Execution Options.** After selecting the AUX function from the 1-Minute Screen, the user is presented with the following selectable AUX functions:

PRINT -   Causes the current display page to be printed. (Air traffic control specialist does not have access to the PRINT function.)

WX   -   Displays the current weather data on the auxiliary portion of the 1-Minute Screen.

MAN -   Displays which sensor(s) is in manual mode.

USERS -   Displays who is signed on to the system at each OID location.

ABORT -   Disregards all changes made and returns the user to the 1-Minute Screen.

EXIT -   Returns the user to the 1-Minute Screen while keeping the auxiliary information displayed.

OFF -   Causes nothing to be displayed on the auxiliary portion of the 1-Minute Screen.

3.2.8.3 **User Inputs.** There are no user inputs to the AUX function.

3.2.8.4 **System Inputs.** System inputs for the AUX function include:

   1.   Relative humidity.

   2.   Sea level pressure.

   3.   Station pressure.

   4.   Density altitude.

   5.   Pressure altitude.

   6.   Display wind report with magnetic wind direction.

   7.   Display sensor(s) in manual mode.

   8.   Display system users.

3.2.8.5 **Execution.** The procedures for executing the AUX function are:

   1.   Select the AUX function from the 1-Minute Screen.

   2.   Select the WX function to display additional weather parameters on the 1-Minute Screen.

   3.   Select EXIT to return to the 1-Minute Screen while maintaining the additional weather
           parameters, or select ABORT or OFF to turn off the additional weather parameters.

   4.   Return to the auxiliary keypad, select the MAN function key to display sensor(s) in manual mode
           on the auxiliary portion of the 1-Minute Screen.

   5.   Select EXIT to return to the 1-Minute Screen while maintaining the sensor(s) in manual mode
           display, or select ABORT or OFF to turn off the sensor(s) in manual mode display.

   6.   Return to the auxiliary keypad, select the USERS function to display a list of users at each OID
           location on the auxiliary portion of the 1-Minute Screen.

   7.   Select EXIT to return to the 1-Minute Screen while maintaining the list of users display, or select
           ABORT or OFF to turn off the list of users display.

3.2.8.6 **Termination.** The functions EXIT and ABORT may be used to terminate the AUX function. ABORT
is used to cancel any changes made to the auxiliary portion of the 1-Minute Screen. EXIT would cause the
display to remain on the 1-Minute Screen until changed or replaced automatically by a message concerning a
change in the availability of present weather data. The later case applies to only the observer and air traffic
control specialist level users. Both the EXIT and ABORT functions return the user to the   1-Minute Screen.

3.2.8.7 **Restart.** From the 1-Minute Screen select the AUX function key to restart the AUX function.

3.2.8.8 **Outputs.** Outputs of the AUX function are:

      1.   The calculated parameters displayed on the lower portion of the 1-Minute Screen.

      2.   A list of OID users is displayed on the lower portion of the 1-Minute Screen.

      3.   A list indicating which sensor(s) are in manual mode is displayed in the lower portion of the 1-Minute Screen.

3.2.8.9 **Interrelationship.** The AUX parameters are calculated from other automatically processed sensor data within the weather reporting algorithms and are therefore not available for EDIT operations. Editing of the parameters used to calculate AUX parameters automatically results in the update of the appropriate parameters.

3.3   **REMOTE USER ACCESS MODES**.

The following subparagraphs describe the four modes of use available to a remote user.

3.3.1 **Direct Command Mode.**

A remote user may access the direct command mode by supplying the direct command mode access code (#<remote access code>, e.g., #WEATHER) within 30 seconds after being prompted. A command line prompt (CMD>)will then appear.

The following commands can be entered for the direct command mode, where MM indicates a month, DD indicates a day, HHMM indicates a time, I indicates an archive index, CODE1 and CODE2 indicate a message entry code for the system maintenance and communications logs, and D indicates the device. All underlined portions of the below commands are optional. If these delimiters are not used the entire contents of the file will be retrieved.

COMMAND FORMAT	DATA OR INFORMATION RETRIEVED
OBS MMDD HHMM MMDD HHMM	METAR/SPECI Reports
5MIN MMDD HHMM MMDD HHMM	"5-Minute" Observations in METAR Format
ARC5MIN I	Archived "5-Minute" Observations Entries for I are: 1, 2, and 3.
SHEF MMDD HHMM MMDD HHMM	SHEF Messages
12HR1 HHMM HHMM	1-Minute Data -- Page One Data
12HR2 HHMM HHMM	1-Minute Data -- Page Two Data
12HRC1 HHMM HHMM	Ceilometer 1 Data

COMMAND FORMAT	DATA OR INFORMATION RETRIEVED
12HRC1 HHMM HHMM	Ceilometer 2 Data (If Configured)
12HRC3 HHMM HHMM	Ceilometer 3 Data (If Configured)
12HR HHMM HHMM	All 1-Minute Data Presented Above
DAILY MMDD MMDD	Daily Summary Products
SYSLOG MMDD HHMM MMDD HHMM CODE1 CODE2	System Maintenance Log
MONTH	Monthly Summary Products
TREND D	Maintenance Failcount Data for ACU and each installed DCP. "D" = 0 for ACU; 1 = DCP1; 2 = DCP2; 3 = DCP3.
LEDWI MMDD HHMM MMDD HHMM	Raw LEDWI Channel Sensor Data For Analysis of Sensor Performance
THUNDER MMDD HHMM MMDD HHMM	Lightning Strike Data as Detected by Thunderstorm Sensor (If Configured)
ALDARS MMDD HHMM MMDD HHMM	Lightning Network Data as Provided by ADAS for Thunderstorm Detection (If Configured)
CLOUD HHMM HHMM	Cloud Cover Statistics for Each Half Hour Time Period
COMLOG MMDD HHMM MMDD HHMM CODE 1 CODE 2	Communications Log Messages
ADAS MMDD HHMM MMDD HHMM	Table of ADAS-ASOS Polling and Link Data
DSM MMDD MMDD	Daily Summary Messages
MSM	Monthly Summary Messages
EDITLOG MMDD HHMM MMDD HHMM	Edit Log Entries
XMODEM	Toggles Between Text and Xmodem Transfer Modes
HELP	Outputs help information.
BYE	Exits Direct Command Mode.

All arguments are optional. If no arguments are entered, all entries for the selected command will be displayed. Any arguments entered will indicate a range of data to be displayed. The default arguments are as follows:

start date	Date of Last Cold Start or Beginning Date of the Archive
start time	00:00
end date	Current System Date
end time	23:59

For any of the commands where the user can enter dates and times, the following logic applies. If the start date is only entered with the command, the default start time is used and the end date and time are assumed to be the current system date and time. If the start date and start time are only entered with the command, the end date and time are assumed to be the current system date and time. If the start date, start time, and end date are only entered with the command, the default end time is used.

For the SYSLG and COMLG commands, in addition to the date and time arguments, the user can also enter a single code or two codes. Any code entry must be directly followed by a "C", e.g., 9999C. Entering a single code value indicates that all entries with the designated code will be displayed. Entering two code values indicates a range of codes to be displayed. The user must enter the code value(s) as the last argument(s), but the code argument(s) can be entered with any combination of the remainder of the valid arguments.

For the ARC5MIN command, the user must enter a valid archive index, i.e., 1, 2, or 3. If archive data are available, it will then be displayed.

For the TREND command, the user must enter a valid device number (i.e., 0 = ACU, 1 = DCP #1, 2 = DCP #2, 3 = DCP #3). If the device is enabled, the data will be displayed.

For any of the commands where the user can only enter dates the following logic applies. If the start date is only entered with the command, the end date is assumed to be the current system date.

For any of the commands where the user can only enter times, the following logic applies. If no arguments are entered with the command, the end time is assumed to be the time of the most recent twelve hour archive and the start time is assumed to be the time of thirteen hours prior to end time. If the start time is only entered with the command, the end time is assumed to be the time of the most recent twelve hour archive.

All times entered are assumed to be Local Standard Time (LST). The user must append a "Z" to the time entry in order to access UTC times. All times, LST or UTC, are converted to the correct type automatically before data are accessed, i.e., all twelve hour data are displayed with UTC times and the remainder of the data are displayed with LST times.

The direct command mode also allows the user to enter any keystroke to exit a command while the data are being downloaded from ASOS.

3.3.2 **ASCII Terminal Mode.**

A remote user may access the ASCII terminal mode by supplying the ASCII terminal mode access code (*<remote access code>, e.g., *WEATHER) within 30 seconds after being prompted.

This mode is for use with all "dumb" terminals. The user has limited available options which are displayed at the bottom of the screen. Number keys are used in place of keypad keys. The information scrolls across the screen in typical ASOS format excluding borders and colors and is only available for inspection or review not editing or changing.

When prompted the user may enter dates and times in MMDD and HHMM format.

3.3.3 **Monochrome Monitor Mode.**

A remote user may access the Monochrome Monitor Mode by supplying the Monochrome Monitor Mode access code ($<remote access code>, e.g., $WEATHER) within 30 seconds after being prompted.

The monitor will then take on the appearance of an OID minus color capabilities. The remote user may then operate as an unsigned-user or sign on to the system as either a technician or system manager level user. If no interaction takes place between ASOS and the remote unsigned-user, for a period of 5-minutes, then the unsigned-user will be automatically disconnected. The remote user does not have use of the PRINT function.

3.3.4 **Remote Access Mode.**

A remote user may access the Remote Access Mode by supplying the Remote Access Mode access code (<remote access code>, e.g., WEATHER) within 30 seconds after being prompted.

The remote user may then operate as an unsigned-user or sign on to the system as either a technician or system manager level user. If no interaction takes place between ASOS and the remote unsigned-user, for a period of 5-minutes, then the unsigned-user will be automatically disconnected. The remote user does not have use of the PRINT function.

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CHAPTER 4
ERRORS

4.1   USER INTERACTION ERROR MESSAGES.

Table 4-1 provides a list of messages displayed on the OID. Each error message is accompanied by the function to which it applies, a description of the error message, and the corrective action to be taken.

Table 4-1. ASOS User Input Error Messages

Error Message	Function	Description	Corrective Action
ADDITIONAL LAYERS ARE NOT ALLOWED AFTER VERTICAL VISIBILITY	Editing of cloud report in SKY field of one-minute screen. (EDIT)	Message appears if the user attempts to edit the cloud report and attempts to add additional layers after the vertical visibility.	Correct cloud report entry or ABORT.
AFOS BACKUP CANNOT BE ENABLED	Changing the AFOS Backup field on the External Page. (REVUE-SITE-CONFG-EXTRN)	Message appears if the user attempts to enable the AFOS Backup system when not appropriate.	Ensure that the PSD is not enabled, AFOS HARDWIRE is not enabled, ADAS is enabled and AFOS PHONE is enabled, then try again.
AUDIBLE ALARMS ENABLED	Enabling all audible alarms (F12, F20)	Message appears when user presses F12 or F20 to enable all audible alarms.	None
AUDIBLE ALARMS DISABLED	Disabling all audible alarms (F12, F20)	Message appears when user presses F12 or F20 to disable all audible alarms.	None
AUDIBLE ALARM IS NOT ACTIVE	Disabling current audible alarm (F19 and F11 key).	Message appears if the user attempts to disable the current audible alarm when no alarm is present or audible alarm is already disabled.	None.
AVG TEMP MUST BE NEAREST TENTH OF A DEG (-80 TO 130), OR M	Editing the monthly average temperature (REVUE-MONTH-CHANG)	Message appears if user attempts to edit the average monthly temperature to an invalid number.	Correct entry or ABORT.
BEYOND BEGINNING OF DATA	Moving through archive file contents using PREV function key (Applies to various OID display pages).	Message appears if the user encounters the beginning of an archive file and attempts to select the PREV function key.	None.
BEYOND END OF DATA	Moving through archive file contents using NEXT function key (Applies to various OID display pages).	Message appears if the user encounters the end of an archive file and attempts to select the NEXT function key.	None.
BLANK ALTIMETER NOT ALLOWED	Editing of altimeter report in ALTIMETER field of one-minute screen (EDIT).	Message appears if the user attempts to edit the altimeter report to a blank field.	Correct altimeter report entry or ABORT.
BLANK CLOUD REPORT INVALID	Editing of cloud report in SKY field of one-minute screen (EDIT).	Message appears if the user attempts to edit the cloud report to a blank field.	Correct cloud report entry or ABORT.
BLANK DEWPT NOT ALLOWED	Editing of dewpoint in TEMP/DEW field of one-minute screen (EDIT).	Message appears if the user attempts to edit the dewpoint report to a blank field.	Correct report entry or ABORT.
BLANK TEMPERATURE NOT ALLOWED	Editing of temperature in TEMP/DEW field of one-minute screen (EDIT).	Message appears if the user attempts to edit the temperature report to a blank field.	Correct report entry or ABORT.
CAN ONLY EDIT DAILY SUMMARY FOR 96 HOURS	Manual changing of daily summary fields (REVUE-DAILY-CHANG).	Message appears if an observer attempts to select the CHANG function key at a time greater than 96 hours.	None.

Table 4-1. ASOS User Input Error Messages (Continued)

Error Message	Function	Description	Corrective Action
CAN ONLY EDIT PREVIOUS MONTH ON 1ST, 2ND, 3RD, OR 4TH OF MONTH	Manual changing of monthly summary fields (REVUE-MONTH-CHANG).	Message appears if an observer attempts to select the CHANG function key when the monthly summary for last month is displayed after the 4th day of the current month.	None.
CAN ONLY EDIT PREVIOUS MONTH	Manual changing of monthly summary fields (REVUE-MONTH-CHANG).	Message appears if an observer attempts to select the CHANG function key when the current monthly summary is displayed.	None.
CANNOT ACCESS (OID #1 - OID #8)	Phone Processor Display screen	Message appears if user attempts to access an OID that does not have phone capability.	None.
CANNOT APPEND WITHOUT A RECORDED MESSAGE	Voice Processor configuration screen (CMD-VOICE).	Message appears if a user attempts to APPEND a voice message to the current voice output when no message has been recorded.	Record a voice message and retry.
CANNOT DELETE VOICE AND NOTAM	Voice Processor configuration screen (CMD-VOICE).	Message appears if a user attempts to have no message playing over the voice processor.	Correct parameters to prevent this condition.
CANNOT EDIT TODAY'S DAILY SUMMARY	Manual changing of daily summary fields (REVUE-DAILY-CHANG).	Message appears if an observer attempts to select the CHANG function key when today's daily summary is displayed.	None.
CANNOT SEQUENCE THRU REMARK DATA	Editing a tornadic SPECI or manual remark (EDIT-REM or GENOB-REM).	Message appears if a user selects the SEQN function key while editing the tornadic SPECI or manual remark.	Edit the tornadic SPECI or manual remark using the keyboard keys.
CANNOT START FUNNL WITH TRNDO OR WTRSP ACTIVE	Manual generation of tornadic SPECI observations (GENOB).	Message appears if a user attempts to select the FUNNL function key when either a tornado or waterspout event is in progress (a previous tornadic SPECI observation has been generated and transmitted using either the TRNDO or WTRSP function key).	Complete the event in progress by selecting either the TRNDO or WTRSP function key and generate and transmit the appropriate tornadic SPECI observation.
CANNOT START TRNDO WITH WTRSP OR FUNNL ACTIVE	Manual generation of tornadic SPECI observations (GENOB or F6 hotkey).	Message appears if a user attempts to select the TRNDO function key when either a waterspout or funnel cloud event is in progress (a previous tornadic SPECI observation has been generated and transmitted using either the WTRSP or FUNNL function key).	Complete the event in progress by selecting either the WTRSP or FUNNL function key and generate and transmit the appropriate tornadic SPECI observation.
CANNOT START WTRSP WITH TRNDO OR FUNNL ACTIVE	Manual generation of tornadic SPECI observations (GENOB).	Message appears if an observer attempts to select the WTRSP function key when either a tornado or funnel cloud event is in progress (a previous tornadic SPECI observation has been generated and transmitted using either the TRNDO or FUNNL function key).	Complete the event in progress by selecting either the TRNDO or FUNNL function key and generate and transmit the appropriate tornadic SPECI observation.
CHANGE ABORTED	Report processing control of sensor configuration data (REVUE-SENSR-STAT-PROC).	Message appears if the user attempts to change report processing status illegally.	Re-enter initials.
CHANGE NOT ALLOWED DURING SYSTEM MODIFICATIONS	Making system modifications	Message appears if user attempts to make system modifications while system modifications are occurring on another OID.	Wait until system modifications are completed.
CHANGE NOT ALLOWED WITH OBSERVER ON PRIMARY OID	Making system modifications	Message appears if user attempts to make system modifications while an observer is logged in on the primary OID.	Wait until the observer logs off.
CHANGE NOT ALLOWED WITH OBS/ATC LOGGED IN	Making system modifications	Message appears if user attempts to make system modifications while an observer or an air traffic controller is logged in.	Wait until the observer or air traffic controller logs off.

Table 4-1. ASOS User Input Error Messages (Continued)

Error Message	Function	Description	Corrective Action
CHANGING TORNADIC REMARKS WILL GENERATE AN UNSCHEDULED OBS	Editing TORNADIC remark (GENOB-REM or EDIT-REM-TORN)	Message appears if user attempts to edit the TORNADIC remarks.	None.
CNCL NOT ALLOWED DURING HOURLY PERIOD	Scheduling a cancel function on the command observation screen (CMD-OBS-CNCL).	Message appears if the user attempts to select the CNCL function key during the hourly report time.	None.
CONFIG NOT ALLOWED DURING SYSTEM MODIFICATIONS	Configuring sensors (REVUE-SITE-CONFG-SENSR)	Message appears if user attempts to configure the sensors while system modifications are being made on another OID.	Wait until system modifications are completed.
CONFIG NOT ALLOWED WITH OBSERVER ON PRIMARY OID	Configuring sensors (REVUE-SITE-CONFG-SENSR)	Message appears if user attempts to configure the sensors while an observer is logged in on the primary OID.	Wait until the observer logs off.
CONFIG NOT ALLOWED WITH OBS/ATC LOGGED IN	Configuring sensors (REVUE-SITE-CONFG-SENSR)	Message appears if user attempts to configure sensors while an observer or ATC is logged in on the primary OID.	Wait until the observer/ATC signs off.
CONSTANT OR LOWEST RVR VALUE MAY NOT EXCEED 5 CHARACTERS.	Editing of RVR report in RVR field of one-minute screen (EDIT).	Message appears if the user attempts to edit the constant or lowest RVR value using more than 5 characters.	Correct entry or ABORT.
CONSTANT OR LOWEST RVR VALUE MAY ONLY INCLUDE DIGITS.	Editing of RVR report in RVR field of one-minute screen (EDIT).	Message appears if the user attempts to edit the constant or lowest RVR value using characters other than digits.	Correct entry or ABORT.
CONSTANT OR LOWEST RVR VALUE MUST BE ROUNDED TO NEAREST HUNDRED FT.	Editing of RVR report in RVR field of one-minute screen (EDIT).	Message appears if the user attempts to edit the RVR report with a constant or lowest RVR value not rounded to the nearest hundred feet.	Correct entry or ABORT.
CONSTANT OR LOWEST RVR VALUE MUST FOLLOW 'M'.	Editing of RVR report in RVR field of one-minute screen (EDIT).	Message appears if the user attempts to edit the RVR report with no constant or lowest RVR value following the 'M'.	Correct entry or ABORT.
CONSTANT OR LOWEST RVR VALUE MUST FOLLOW '/'.	Editing of RVR report in RVR field of one-minute screen (EDIT).	Message appears if the user attempts to edit the RVR report with no constant or lowest RVR value following the '/'.	Correct entry or ABORT.
COR NOT ALLOWED WITH OBSERVER ON PRIMARY OID	Correcting an observation from the commands OBS screen (CMD-OBS-COR).	Message appears if user attempts to correct an observation when an observer is on the primary OID.	Wait until the observer signs off.
CURRENT AUDIBLE ALARM DISABLED	Disabling current audible alarm (F19 Key).	Message appears after the user disables the current audible alarm.	None.
DATA ENTRY MUST BE 1 - 3 DIGITS FOLLOWED BY 'E' OR 'W'	Changing of site physical characteristic data (REVUE-SITE-PHYS-CHANG).	Message appears if the user attempts to edit the magnetic declination field with an invalid value.	Correct entry or ABORT.
DATA NOT AVAILABLE	Accessing TREND data.	Message appears if the user attempts to access TREND data when no data is available.	No corrective action.
DATE NOT FOUND	Requesting review of archived data at the date correctly entered in MM/DD/YY format after selecting DATE function key (applies to various OID display pages).	Message appears if user attempts to review data for a date that is not found in the data archive file.	Select DATE function key and enter another date in MM/DD/YY format.
DCP CANNOT BE DISABLED, SENSORS MUST BE DECONFIGURED	Changing the DCP status from enabled to disabled on the REVUE-SITE-CONFG-HDWE screen.	Message appears if user attempts to change the DCP status from enabled to disabled while sensors are still configured on the CONFG SENSR screen.	Delete the sensors from the CONFG SENSR screen and then disable the DCP.
DCP [#1, #2, #3] NOT ENABLED	Selecting trend information for DCP #1, #2, or #3.	Message appears if the user selects DCP information on the TREND screen when the DCP selected is not enabled.	No corrective action.
DN-LD ALREADY IN PROGRESS BY OID [#1, #2, #3, #4, #5, #5, #6, #7,, #8]	Attempting a download (REVUE-SITE-VERSN-AOMC).	Message appears if user attempts to download a file from the AOMC while another OID is already downloading.	Wait until download is complete.

Table 4-1. ASOS User Input Error Messages (Continued)

Error Message	Function	Description	Corrective Action
DN-LD NOT ALLOWED DURING SYSTEM MODIFICATIONS	Attempting a download (REVUE-SITE-VERSN-AOMC).	Message appears if user attempts to download while another OID is performing system modifications.	Wait until system modifications are completed.
DN-LD NOT ALLOWED WITH OBSERVER ON PRIMARY OID	Attempting a download (REVUE-SITE-VERSN-AOMC).	Message appears if user attempts to download while an observer is logged in on the primary OID .	Wait until the observer logs off.
DN-LD NOT ALLOWED WITH OBS/ATC LOGGED IN	Attempting a download (REVUE-SITE-VERSN-AOMC).	Message appears if user attempts to download while an observer/air traffic controller is logged in.	Wait until the observer/ATC logs off.
DOWNLOAD CAN NOT BE REQUESTED AT THIS TIME	Scheduling a download (REVUE-SITE-VERSN-AOMC- DN-LD).	Message appears if user selects the DN-LD function key for a data file that is not appropriate.	None.
DUPLICATE IDENTIFIER NOT ALLOWED: "XXX"	Editing or augmenting data in PRESENT WX field of one-minute screen. (EDIT)	Message appears if the user inputs two of the same present weather identifiers.	Correct present weather entry or ABORT.
DUPLICATE SENSOR CODE ENTERED	Changing the sensor configuration (REVUE-SITE-CONFG-SENSR-CHANG).	Message appears if the user attempts to enter a sensor code that has already been entered.	Correct entry or ABORT.
EDIT ALREADY IN PROGRESS BY OID [#1, #2, #3, #4, #5, #5, #6, #7,, #8]	Edit function of the one-minute screen (EDIT).	Message appears if user attempts to edit while another user is already editing.	None. Must wait until initial user has completed edits.
EDIT NOT ALLOWED DURING SYSTEM MODIFICATIONS	Edit function of the one-minute screen (EDIT).	Message appears if user attempts to edit while system modifications are occurring on another OID.	Wait until system modifications are completed.
EDIT NOT ALLOWED WITH OBSERVER LOGGED IN	Edit function of the one-minute screen (EDIT).	Message appears if user attempts to edit while an observer is logged in.	Wait until the observer logs off.
EDIT NOT ALLOWED WITH OBSERVER ON PRIMARY OID	Edit function of the one-minute screen (EDIT).	Message appears if user attempts to edit while an observer is logged in on the primary OID.	Wait until the observer logs off.
END OF DATA	Requesting review of sensor configuration data (REVUE-SENSR-STAT).	Message appears if the user encounters the end of the sensor configuration file and attempts to select the PAGE function key.	None.
ENTRY MUST BE IN FORMAT DDTTTT, DD 01-31, TTTT 0000-2359	Editing the monthly short duration precipitation date/time tags (REVUE-MONTH-CHANG)	Message appears if user attempts to edit the short duration precipitation date/time tag to an invalid number.	Correct entry or ABORT.
FG VALID ONLY WHEN VIS <= 1/2 MILES AND TEMP >= 0 DEG C	Editing or augmenting in PRESENT WX field of one-minute screen. (EDIT)	Message appears if the user inputs FG when VIS is greater than 1/2 mile or temperature is less than 0.	Correct present weather entry or ABORT.
FREEZING PRECIPITATION VALID ONLY WHEN TEMP < 2.5 DEG C	Editing or augmenting in PRESENT WX field of one-minute screen. (EDIT)	Message appears if the user inputs a freezing precipitation when the temperature is greater than or equal to 2.5 degrees Celsius.	Correct present weather entry or ABORT.
FREQ MUST BE IN RANGE 117.975-136.975 IN STEPS OF 0.025	Setting up GTA Radio Frequency (REVUE-SITE-CONFG-COMMS)	Message appears if the user attempts to input a GTA Radio Frequency that is not within the limits.	Correct frequency entry or ABORT.
GENOB ALREADY IN PROGRESS BY OID [#1, #2, #3, #4, #5, #5, #6, #7,, #8]	GENOB Function (GENOB)	Message appears if user attempts to enter the GENOB function while another user is already in GENOB.	Wait until initial user has completed using GENOB.
GENOB NOT ALLOWED DURING SYSTEM MODIFICATIONS	GENOB Function (GENOB)	Message appears if user attempts to enter the GENOB function while system modifications are occurring from another OID.	Wait until system modifications are completed.
GENOB NOT ALLOWED WITH OBSERVER LOGGED IN	GENOB Function (GENOB)	Message appears if user attempts to enter the GENOB function while an observer is logged in.	Wait until the observer logs off.
GENOB NOT ALLOWED WITH OBSERVER ON PRIMARY OID	GENOB Function (GENOB)	Message appears if user attempts to enter the GENOB function while an observer is logged in on the primary OID.	Wait until the observer logs off.

Table 4-1. ASOS User Input Error Messages (Continued)

Error Message	Function	Description	Corrective Action
GENOB SPECI NOT ALLOWED DURING HOURLY	Generating an observation special (GENOB-SPECI).	Message appears if the user attempts to generate a manual special when the hourly is already pending.	None.
GUST SPEED MAY NOT EXCEED 3 CHARACTERS.	Editing of wind report in WIND field of the one-minute screen. (EDIT)	Message appears if the user attempts to edit the gust speed using more than 3 characters.	Correct wind report entry or ABORT.
GUST SPEED MAY ONLY INCLUDE DIGITS.	Editing of wind report in WIND field of the one-minute screen. (EDIT)	Message appears if the user attempts to edit the gust speed using characters other than digits.	Correct wind report entry or ABORT.
GUST SPEED MUST FOLLOW 'G'.	Editing of wind report in WIND field of the one-minute screen. (EDIT)	Message appears if the user attempts to edit the gust speed with no gust speed following the "G".	Correct wind report entry or ABORT.
HIGHEST RVR VALUE MAY NOT EXCEED 5 CHARACTERS.	Editing of RVR report in RVR field of one-minute screen (EDIT).	Message appears if the user attempts to edit the highest RVR value using more than 5 characters.	Correct entry or ABORT.
HIGHEST RVR VALUE MAY ONLY INCLUDE DIGITS.	Editing of RVR report in RVR field of one-minute screen (EDIT).	Message appears if the user attempts to edit the highest RVR value using characters other than digits.	Correct entry or ABORT.
HIGHEST RVR VALUE MUST BE ROUNDED TO NEAREST HUNDRED FT.	Editing of RVR report in RVR field of one-minute screen (EDIT).	Message appears if the user attempts to edit the RVR report with a highest RVR value not rounded to the nearest hundred feet.	Correct entry or ABORT.
HIGHEST RVR VALUE MUST FOLLOW 'V'.	Editing of RVR report in RVR field of one-minute screen (EDIT).	Message appears if the user attempts to edit the RVR report with no highest RVR value following the 'V'.	Correct entry or ABORT.
HOTKEYS NOT ALLOWED DURING SYSTEM MODIFICATIONS	Executing a HOTKEY.	Message appears if user attempts to execute a HOTKEY while system modifications are occurring on another OID.	Wait until system modifications are completed.
HOTKEYS NOT ALLOWED WITH OBSERVER LOGGED IN	Executing a HOTKEY.	Message appears if user attempts to execute a HOTKEY while an observer is logged in.	Wait until the observer logs off.
HOTKEYS NOT ALLOWED WITH OBSERVER ON PRIMARY OID	Executing a HOTKEY.	Message appears if user attempts to execute a HOTKEY while an observer is logged in on the primary OID.	Wait until the observer logs off.
HZ VALID ONLY WHEN VIS < 7 MILES	Editing or augmenting of PRESENT WX field of one-minute screen. (EDIT)	Message appears if the user inputs HZ when visibility is greater than 7 miles.	Correct present weather entry or ABORT.
ILLEGAL ALTIMETER INPUT CHARACTERS: "XXX"	Editing of altimeter report in ALTIMETER field of one-minute screen (EDIT).	Message appears if the user attempts to input altimeter values that are non-numeric.	Correct altimeter report or ABORT.
ILLEGAL COMBINATION OF OBSTRUCTION IDENTIFIERS	Editing or augmenting of PRESENT WX field of one-minute screen. (EDIT)	Message appears if the user inputs obstruction identifiers that cannot exist at the same time.	Correct present weather entry or ABORT.
ILLEGAL COMBINATION OF PRECIPITATION IDENTIFIERS	Editing or augmenting of PRESENT WX field of one-minute screen. (EDIT)	Message appears if the user inputs precipitation identifiers that cannot exist at the same time.	Correct present weather entry or ABORT.
ILLEGAL COMBINATION OF TORNADIC ACTIVITY IDENTIFIERS	Editing or augmenting of PRESENT WX field of one-minute screen. (EDIT)	Message appears if the user attempts to input FC and +FC in the present weather field.	Correct present weather entry or ABORT.
ILLEGAL DEWPT INPUT CHARACTERS: "XXX"	Editing of dewpoint report in the TEMP/DEW field of the one-minute screen (EDIT).	Message appears if characters other than a digit or decimal point are entered into the dewpoint field.	Correct dewpoint entry or ABORT.
ILLEGAL DEWPT INPUT:-	Edit function of the one-minute screen (EDIT).	Message appears if an illegal dewpoint value is entered.	Correct entry or ABORT.
ILLEGAL NUMBER, RANGE 0.0 TO 9.9999	Changing the pressure value on the review site pressure screen (REVUE-SITE-PRESS-CHANG).	Message appears if an illegal pressure value is entered.	Correct entry or ABORT.

Table 4-1. ASOS User Input Error Messages (Continued)

Error Message	Function	Description	Corrective Action
ILLEGAL PASSWORD	Signing on system (SIGN).	Message appears if the user responds to the password prompt with an entry that is not one of the current system passwords for the observer, air traffic controller, technician or system manager levels.	Select SIGN function key and try again.
ILLEGAL TEMPERATURE INPUT: -	Editing of temperature report in the TEMP/DEW field of the one-minute screen (EDIT).	Message appears if an illegal temperature value is entered.	Correct entry or ABORT.
ILLEGAL TEMPERATURE INPUT CHARACTERS: "XXX"	Editing of temperature report in the TEMP/DEW field of the one-minute screen (EDIT).	Message appears if characters other than a digit or decimal point are entered into the temperature field.	Correct entry or ABORT.
IMPROPER CHARACTER AFTER CLR	Editing or augmenting of cloud report in SKY field of one-minute screen (EDIT).	Message appears if an illegal character following the CLR was entered in the SKY field.	Correct entry or ABORT.
IMPROPER DATA ENTRY	Changing of daily or monthly summary field entries (REVUE-DAILY-CHANG and REVUE-MONTH-CHANG).	Message appears for a general data entry error for the currently selected field.	Correct entry or ABORT.
IMPROPER SKY SYMBOL ORDER: BKN CAN'T FOLLOW OVC	Editing or augmenting of cloud report in SKY field of one-minute screen (EDIT).	Message appears if the user enters layer height descriptions in the wrong order. The correct order is FEW first, SCT second, BKN third, and OVC fourth.	Re-enter in the correct order or abort.
IMPROPER SKY SYMBOL ORDER: FEW CAN'T FOLLOW BKN	Editing or augmenting of cloud report in SKY field of one-minute screen (EDIT).	Message appears if the user enters layer height descriptions in the wrong order. The correct order is FEW first, SCT second, BKN third, and OVC fourth.	Re-enter in the correct order or abort.
IMPROPER SKY SYMBOL ORDER: FEW CAN'T FOLLOW OVC	Editing or augmenting of cloud report in SKY field of one-minute screen (EDIT).	Message appears if the user enters layer height descriptions in the wrong order. The correct order is FEW first, SCT second, BKN third, and OVC fourth.	Re-enter in the correct order or abort.
IMPROPER SKY SYMBOL ORDER: FEW CAN'T FOLLOW SCT	Editing or augmenting of cloud report in SKY field of one-minute screen (EDIT).	Message appears if the user enters layer height descriptions in the wrong order. The correct order is FEW first, SCT second, BKN third, and OVC fourth.	Re-enter in the correct order or abort.
IMPROPER SKY SYMBOL ORDER: SCT CAN'T FOLLOW BKN	Editing or augmenting of cloud report in SKY field of one-minute screen (EDIT).	Message appears if the user enters layer height descriptions in the wrong order. The correct order is FEW first, SCT second, BKN third, and OVC fourth.	Re-enter in the correct order or abort.
IMPROPER SKY SYMBOL ORDER: SCT CAN'T FOLLOW OVC	Editing or augmenting of cloud report in SKY field of one-minute screen (EDIT).	Message appears if the user enters layer height descriptions in the wrong order. The correct order is FEW first, SCT second, BKN third, and OVC fourth.	Re-enter in the correct order or abort.
IMPROPER VALUE, RANGE BETWEEN 0.00 AND 0.99	Revue site criteria screen (REVUE SITE CRIT).	Message appears if an illegal value is entered into the criteria termination threshold for SHEF alerts.	Correct termination threshold entry or ABORT.
IMPROPER VALUE, RANGE BETWEEN 0.00 AND 9.99	Revue site criteria screen (REVUE SITE CRIT).	Message appears if an illegal value is entered into the criteria onset threshold for SHEF alerts.	Correct onset threshold entry or ABORT.
INITIALS CAN ONLY BE CHARACTERS	Signing on system (SIGN).	Message appears if the user attempts to enter any character other than A through Z.	Re-enter initials using only characters A through Z.
INITIALS MUST BE LETTERS, CHANGE ABORTED	Report processing control of sensor configuration data (REVUE-SENSR-STAT PROC).	Message appears if the user attempts to change report processing status and enters an illegal set of initials when prompted.	Re-enter initials as letters.
INPUT DOES NOT MATCH SELECTED CURRENT PASSWORD	Changing the system passwords on the command password screen (CMD-PASSW).	Message appears when the system manager attempts to change a password but does not enter the original password correctly.	Select PASSW function key and begin again.

Table 4-1. ASOS User Input Error Messages (Continued)

Error Message	Function	Description	Corrective Action
INPUT MUST BE IN THE FORMAT HHMM	Changing the station operating hours field on the revue site physical screen (REVUE-SITE-PHYS-CHANG).	Message appears if the station opening/closing time fields are not entered in the proper format.	Correct entry or ABORT.
INVALID ASOS PRESENT WEATHER IDENTIFIER: "XXX"	Editing or augmenting of present weather report in PRESENT WX field of one-minute screen (EDIT).	Message appears if the user attempts to enter a present weather identifier that does not exist.	Correct present weather entry or ABORT.
INVALID CHARACTER	Changing field entries on various OID display pages.	Message appears if the user attempts to input the wrong type of data. For example, when numeric characters are expected and the entered data is not numeric characters.	Correct entry or ABORT.
INVALID CHARACTER, MUST BE '+' OR ' '	Editing of the monthly highest/lowest sea level pressure multiple occurrence fields (REVUE-MONTH-CHANG).	Message appears if the user enters an invalid multiple occurrence designation.	Correct entry or ABORT.
INVALID CONSTANT OR LOWEST RVR VALUE. RANGE M0100 - P6000.	Editing of RVR report in RVR field of one-minute screen (EDIT).	Message appears if the user attempts to edit the RVR report with a constant or lowest RVR value out of range.	Correct entry or ABORT.
INVALID DATA, CAN ENTER ANY COMBINATION OF '1' - '9' AND 'X'	Editing of the weather code field on the daily screen (REVUE-DAILY-CHANG).	Message appears if the user attempts to edit the field with an unacceptable string.	Correct entry or ABORT.
INVALID DATA ENTRY	Changing of site physical characteristic data (REVUE-SITE-PHYS-CHANG).	Message appears for a general data entry error for the currently selected field.	Correct entry or ABORT.
INVALID DATA ENTRY, ELEVATION LIMITS EXCEEDED	Changing the elevation value on the review site physical screen (REVUE-SITE-PHYS-CHANG) or the review site configuration sensor algorithm screen (REVUE-SITE-CONFG-SENSR-ALGOR-CHANG).	Message appears if any of the elevation limits are exceeded. Actual limits are -3200 to 32,000 feet.	Correct entry or ABORT.
INVALID DATA ENTRY, RANGE BETWEEN 0 AND 255	Changing of site external communications data (REVUE-SITE-CONFG-EXTRN).	Message appears if the ASOS/TCCC address field is changed to a value outside the acceptable range.	Correct entry or ABORT.
INVALID DATA ENTRY, RANGE BETWEEN 0 AND 59	Changing of site physical characteristic data (REVUE-SITE-PHYS-CHANG).	Message appears if the SHEF hourly transmit time is changed to a value outside the acceptable range.	Correct entry or ABORT.
INVALID DATA ENTRY, RANGE BETWEEN 10 AND 120	Changing of site external communications data (REVUE-SITE-CONFG-EXTRN).	Message appears if the send reply time field is changed to a value outside the acceptable range.	Correct entry or ABORT.
INVALID DATA ENTRY, RANGE BETWEEN 0000 THROUGH 2359	Changing of site physical characteristic data (REVUE-SITE-PHYS-CHANG).	Message appears if the station opening time field or the station closing time field is not entered in proper 24-hour format.	Correct entry or ABORT.
INVALID DATA ENTRY, RANGE BETWEEN 45 AND 59	Changing of site physical characteristic data (REVUE-SITE-PHYS-CHANG).	Message appears if the hourly report time field is changed to a value outside the acceptable range.	Correct entry or ABORT.
INVALID DATA ENTRY, RANGE BETWEEN -12 AND +12	Changing of site physical characteristic data (REVUE-SITE-PHYS-CHANG).	Message appears if the UTC to LST offset field is changed to a value outside the acceptable range.	Correct entry or ABORT.
INVALID DATA, RANGE FROM -80 TO 130	Changing of monthly temperature field entries (REVUE-MONTH-CHANG).	Message appears if user attempts to edit a temperature field to a value outside the acceptable range.	Correct entry or ABORT.
INVALID DATE	Requesting specific date on various OID display pages.	Message appears if the user attempts to enter a date that is not in MM/DD/YY format where MM is 1 to 12, DD is 1 to 31 and YY is 00 to 99.	Select DATE function key and enter date in correct MM/DD/YY format.
INVALID DATE, RANGE FROM 1 TO 31 IN FORMAT DD OR DD-DD	Editing monthly precipitation/snow greatest in 24 hours date fields (REVUE-MONTH-CHANG).	Message appears if user enters an invalid date entry.	Correct entry or ABORT.

Table 4-1. ASOS User Input Error Messages (Continued)

Error Message	Function	Description	Corrective Action
INVALID DATE, RANGE FROM 1 TO 31 OR ' '	Editing monthly snow depth dates (REVUE-MONTH-CHANG).	Message appears if the user attempts to enter an invalid snow depth date.	Correct entry or ABORT.
INVALID DATE, RANGE FROM 1 TO 31 OR 'M '	Editing monthly highest/lowest sea level pressure date of occurrence (REVUE-MONTH-CHANG).	Message appears if the user attempts to edit the date of occurrence to an invalid value.	Correct entry or ABORT.
INVALID ENTRY	Editing the external page. (REVUE-SITE-CONFG-EXTRN)	Message appears if the user enters invalid information for various external fields.	Correct the entry or ABORT.
INVALID FORMAT	Changing of special or local criteria (REVUE-SITE-CRIT-CHANG).	Message appears if the user attempts to change or add a ceiling threshold, layer threshold, or visibility threshold that is invalid.	Correct entry or ABORT.
INVALID GUST SPD. MUST EXCEED WIND SPD BY 3 KNOTS.	Editing of wind report of WIND field on the one-minute display (EDIT).	Message appears if the user attempts to input a gust speed that is not greater than the wind speed by 3 knots.	Correct wind report entry or ABORT.
INVALID GUST SPD. RANGE 12 - 300 KNOTS.	Editing of wind report of WIND field on the one-minute display (EDIT).	Message appears if the user attempts to input a gust speed that is not greater than the wind speed within 12-300 knot limit.	Correct wind report entry or ABORT.
INVALID HIGHEST RVR VALUE. RANGE M0100 - P6000.	Editing of RVR report in RVR field of one-minute screen (EDIT).	Message appears if the user attempts to edit the RVR report with a highest RVR value out of range.	Correct entry or ABORT.
INVALID INPUT	Changing the system passwords on the command password screen (CMD-PASSW).	Message appears if the system manager does not correctly enter a numeric character from 1 to 6 when selecting menu choices.	Select PASSW function key and begin again.
INVALID LATITUDE	Editing the site physical latitude value (REVUE-SITE-PHYS-CHANG).	Message appears if the user attempts to edit the latitude to an invalid value.	Correct entry or ABORT.
INVALID LAYER HEIGHT: CLEAR BELOW 12,000 FEET	Editing or augmenting of cloud report in SKY field of one-minute screen (EDIT).	Message appears if the user attempts to enter CLR BLO 120.	Correct SKY entry or ABORT.
INVALID LONGITUDE	Editing the site physical longitude value (REVUE-SITE-PHYS-CHANG).	Message appears if the user attempts to edit the longitude to an invalid value.	Correct entry or ABORT.
INVALID NUMBER, RANGE FROM 0 TO 31	Editing monthly number of days with precipitation fields (REVUE-MONTH-CHANG).	Message appears if the user enters an illegal value for number of days with .01, .10, .50, 1.0 inches of precipitation.	Correct entry or ABORT.
INVALID NUMBER, RANGE FROM 0 TO 9999	Editing monthly heating/cooling monthly total days (REVUE-MONTH-CHANG).	Message appears if the user enters invalid heating or cooling monthly total days.	Correct entry or ABORT.
INVALID NUMBER, RANGE FROM 0 TO 65000	Changing of special or local criteria (REVUE-SITE-CRIT-CHANG).	Message appears if the user attempts to change or add a ceiling threshold or a layer threshold value not within the acceptable range.	Correct ceiling or layer threshold entry or ABORT.
INVALID NUMBER, RANGE FROM 1 TO 31 OR ' '	Editing monthly maximum/ minimum temperature dates (REVUE-MONTH-CHANG).	Message appears if a user enters illegal dates of maximum/minimum temperature.	Correct entry or ABORT.
INVALID NUMBER, RANGE FROM -999.0 TO 999.0	Editing monthly departure from normal (REVUE-MONTH-CHANG).	Message appears if the user enters an illegal value in the depart from normal field for the monthly temperature.	Correct entry or Abort.
INVALID NUMBER, RANGE FROM -9999 TO 9999	Editing monthly heating/cooling departure from normal (REVUE-MONTH-CHANG).	Message appears if the user enters an illegal value in the depart from normal fields for heating or cooling days.	Correct entry or ABORT.
INVALID NUMBER, RANGE FROM -99999 TO 99999	Editing monthly heating/cooling seasonal totals (REVUE-MONTH-CHANG).	Message appears if the user enters an illegal value into the heating or cooling season totals.	Correct entry or ABORT.
INVALID RUNWAY NUMBER. RANGE 01 TO 36.	Editing of RVR report in RVR field of one-minute screen (EDIT).	Message appears if the user attempts to enter a runway number that is not within range.	Correct entry or ABORT.

Table 4-1. ASOS User Input Error Messages (Continued)

Error Message	Function	Description	Corrective Action
INVALID SIGN OFF, USER NOT PRESENTLY SIGNED ON	Signing on the system (SIGN).	Message appears if the user attempts to sign-off when there is currently no user logged on.	None.
INVALID SKY COVER SYMBOL: "XXX"	Editing or augmenting of cloud report in SKY field of the one-minute screen (EDIT).	Message appears if the user enters an invalid sky cover symbol, i.e. not FEW, SCT, BKN, OVC, CLR, or VV.	Correct sky entry or ABORT.
INVALID SKY SENSOR CONFIGURATION	Editing sky entries on REVUE-SITE-CONFG-SENSR Screen.	Message appears if the user enters an invalid combination of sky sensors (i.e. the primary sensor must be configured in order to configure the meteorological discontinuity sensor or the backup sensor).	Enter a valid combination of sky sensors.
INVALID TIME	Requesting specific time on various OID display pages.	Message appears if the user attempts to enter a time that is not in HHMM format where HH is 00 to 23 and MM is 0 to 59.	Select TIME function key and enter time in correct HHMM format.
INVALID VALUE, USER CAN ONLY ENTER BLANKS OR 2400	Changing Criteria for the RVR (REVUE-SITE-CRIT).	Message appears if the user attempts to change the RVR special criteria value to something other than blank or 2400.	Change RVR criteria to blank or 2400 or ABORT.
INVALID VAR MAX WIND DIR. RANGE 0-360 DEG ROUNDED TEN DEG.	Editing of wind report in WIND field of the one-minute display (EDIT).	Message appears if the user attempts to enter a variable maximum wind direction to a value outside the acceptable range.	Correct wind report entry or ABORT.
INVALID VAR MIN WIND DIR. RANGE 0-360 DEG ROUNDED TEN DEG.	Editing of wind report in WIND field of the one-minute display (EDIT).	Message appears if the user attempts to enter a variable minimum wind direction to a value outside the acceptable range.	Correct wind report entry or ABORT.
INVALID VERIFICATION REPLY, MUST ENTER Y OR N	Editing the verification prompt response field.	Message appears if the user attempts to respond to a verification message with anything other than Y or N.	Enter Y or N.
INVALID VISIBILITY SENSOR CONFIGURATION	Editing visibility entries on REVUE-SITE-CONFG-SENSR Screen.	Message appears if the user enters an invalid combination of visibility sensors (i.e. the primary sensor must be configured in order to configure the meteorological discontinuity sensor or the backup sensor).	Enter a valid combination of visibility sensors.
INVALID WIND DIR. RANGE 0-360 DEG ROUNDED TO TEN DEG.	Editing of display wind report in WIND field of one-minute screen (EDIT).	Message appears if the user attempts to edit the wind direction to a value outside the acceptable wind direction range.	Correct wind direction entry or ABORT.
INVALID WIND SPD. RANGE 0, 3 - 300 KNOTS.	Editing of display wind report in WIND field of one-minute screen (EDIT).	Message appears if the user attempts to edit the wind speed to a value outside the acceptable wind speed range.	Correct wind speed entry or ABORT.
INVALID. ALTIMETER RANGE 26.00 TO 31.00	Editing of altimeter report in ALTIMETER field of one-minute screen (EDIT).	Message appears if the user attempts to edit the altimeter setting to a value outside the acceptable altimeter range.	Correct altimeter setting entry or ABORT.
INVALID. DEWPOINT MUST BE LESS THAN OR EQUAL TEMP	Editing of dewpoint temperature report in TEMP/DEW field of one-minute screen (EDIT).	Message appears if the user attempts to enter a dewpoint temperature greater than the ambient temperature.	Correct dewpoint temperature entry or ABORT.
INVALID. DEWPOINT RANGE -34.4 TO 30.0 DEG C	Editing of dewpoint (C) report in the TEMP/DEW field of the one-minute screen (EDIT).	Message appears if the dewpoint (C) field is changed to a value outside the acceptable range.	Correct entry or ABORT.
INVALID. DEWPOINT RANGE -80 TO 86.0 DEG F	Editing of dewpoint (F) report in the TEMP/DEW field of the one-minute screen (EDIT).	Message appears if the dewpoint (F) field is changed to a value outside the acceptable range.	Correct entry or ABORT.
INVALID. NOT REPORTABLE VISIBILITY VALUE	Editing of either visibility report in VISIBILITY field of one-minute screen or tower visibility (EDIT or TWR).	Message appears if the user attempts to edit the visibility report or the tower visibility to a value that is not one of the ASOS reportable visibility values.	Correct visibility report or tower visibility entry to 1 of the ASOS reportable values or ABORT.
INVALID. TEMPERATURE RANGE -62.2 TO 54.4 DEG C	Editing of 5-minute average ambient temperature (C) report in TEMP/DEW field of one-minute screen (EDIT).	Message appears if the user attempts to edit the 5-minute average ambient temperature (C) to a value outside the acceptable ambient temperature range.	Correct entry or ABORT.

Table 4-1. ASOS User Input Error Messages (Continued)

Error Message	Function	Description	Corrective Action
INVALID. TEMPERATURE RANGE -80 TO 130 DEG F	Editing of 5-minute average ambient temperature (F) report in TEMP/DEW field of one-minute screen (EDIT).	Message appears if the user attempts to edit the 5-minute average ambient temperature (F) to a value outside the acceptable ambient temperature range.	Correct entry or ABORT.
INVALID. 'R' MUST BE FIRST CHARACTER OF RVR FIELD.	Editing of RVR report in RVR field of one-minute screen (EDIT).	Message appears if the user attempts to edit the RVR report not to begin with 'R'.	Correct entry or ABORT.
INVALID, 'P6000' CANNOT BE LOWEST VARIABLE RVR VALUE.	Editing of RVR report in RVR field of one-minute screen (EDIT).	Message appears if the user attempts to enter 'P6000' as the lowest variable RVR value.	Correct entry or ABORT.
INVALID, "XXX" CANNOT BE HIGHEST VARIABLE RVR VALUE.	Editing of RVR report in RVR field of one-minute screen (EDIT).	Message appears if the user attempts to edit the RVR report with an invalid highest variable RVR value..	Correct entry or ABORT.
INVALID, LOWEST RVR VALUE MUST PRECEED HIGHEST RVR VALUE.	Editing of RVR report in RVR field of one-minute screen (EDIT).	Message appears if the user attempts to edit the RVR report with a lowest RVR value not preceeding the highest RVR value.	Correct entry or ABORT.
LAYER HEIGHT CANNOT EXCEED 35,000 FEET	Editing of cloud report in SKY field of one-minute screen (EDIT).	Message appears if the user enters a layer height which is greater than 35,000 feet.	Enter corrected layer height or ABORT.
LAYER HEIGHTS MUST BE INCREASING	Editing or augmenting of cloud report in SKY field of one-minute screen (EDIT).	Message appears if the user enters a layer height which is less than or equal to the previous layer height.	Enter corrected layer height or ABORT.
MODEM SLOT VALUE MUST BE ENTERED	Exiting review site configuration communications screen (REVUE-SITE-CONFG-COMMS).	Message appears if a required modem slot value has not been entered.	Use the SEQN key on the keypad to enter a modem slot value
MORE THAN 3 LAYERS ABOVE 12000 FEET NOT ALLOWED	Editing or augmenting of cloud report in SKY field of one-minute screen (EDIT).	Message appears if the user enters more than three layers heights above 12000 feet.	Enter no more than 3 layers above 12000 feet or ABORT.
MORE THAN 3 LAYERS BELOW 12000 FEET NOT ALLOWED	Editing or augmenting of cloud report in SKY field of one-minute screen.	Message appears if the user enters more than three layer heights below or equal to 12000 feet.	Enter no more than 3 layers below 12000 feet or ABORT.
MUST BE 2 OR 3 INITIALS	Signing on system (SIGN).	Message appears if user attempts to enter less than two initials at sign-on prompt.	Re-enter two or three initials.
MUST END TORNADIC EVENT PRIOR TO STARTING ANOTHER	Editing or augmenting of present weather report in PRESENT WX field of one-minute screen (EDIT).	Message appears if user attempts to enter a +FC while an FC exists and vice versa.	Correct present weather entry, end prior TORNADIC event, or ABORT.
MUST HAVE TWO INITIALS, CHANGE ABORTED	Report processing control of sensor configuration data (REVUE-SENSR-STAT-PROC).	Message appears if a user attempts to change report processing status and enters less than 2 initials when prompted for initials.	Retry the change and enter at least 2 initials.
M/E REQUIRED IN FRONT OF FIRST BKN OR OVC ONLY	Editing or augmenting of cloud report in SKY field of one-minute screen (EDIT).	Message appears if the user enters a M (measured) or E (estimated) and has already entered a BKN or OVC layer.	Retry without entering an M or an E.
NO ARCHIVE DATA AVAILABLE	Selecting a 2-hour 5-minute observation archive file for review (REVUE-OBS-5MIN-REV2H).	Message appears if the user attempts to select a 2-hour 5-minute observation archive file using either the ONE, TWO or THREE function key that contains no data.	Try the remaining selection function keys (ONE, TWO or THREE) to determine which 2-hour 5-minute archive files exist.
NO DATA MATCHING FILTER	Selecting filter (REVUE-SYSLG-FILTR or REVUE-COMLG-FILTR).	Message appears if not data is archived for the filter selected.	None.
NO ENTRY FOR THAT DATE	Requesting review of archive data starting at the date correctly entered in MM/DD/YY format after selecting DATE function key (REVUE-RPT-SHEF).	Message appears if the user attempts to enter a time that is not found in the data archive file.	Select DATE function key and enter another time in MM/DD/YY format.

Table 4-1. ASOS User Input Error Messages (Continued)

Error Message	Function	Description	Corrective Action
NO ENTRY FOR THAT TIME	Requesting review of data starting at the time correctly entered in HHMM format after selecting TIME function key (REVUE-OBS-5MIN-TIME, REVUE-SENSR-12HR-TIME).	Message appears if the user attempts to enter a time that is not found in the archive file.	Select TIME function key and enter another time in HHMM format.
NO FIELDS CAN BE EDITED	Attempting to access CHANG key on REVUE-SITE-CONFG-SENSR-ALGOR screen.	Message appears if user attempts to select the CHANG function key, when there is only a single visibility sensor configured (i.e. there are no data fields to edit).	None.
NO LAYER HEIGHT FOUND AFTER 'VV'	Editing or augmenting of cloud report in SKY field of one-minute screen (EDIT).	Message appears when no numeric data follows the vertical visibility identifier.	Enter a 3-digit vertical visibility in hundreds of feet between 000 - 020.
NO LAYER HEIGHT FOUND AFTER 'VV': "XXX"	Editing or augmenting of cloud report in SKY field of one-minute screen (EDIT).	Message appears when invalid numeric data follows the vertical visibility identifier.	Enter a 3-digit vertical visibility in hundreds of feet 000 - 020.
NO LEGAL ACCESS	Changing any system archive or parameters.	This default message appears if a change is attempted on a screen where access is not valid.	None.
NO LOG ENTRY WITH THAT DATE FOUND	Requesting review of archived log entries (SYS/COMLG/EDTLG) at date correctly entered in the MM/DD/YY format after selecting DATE function key (REVUE-SYSLG or REVUE-COMLG or REVUE-EDTLG).	Message appears if user attempts to review log entries for a date that is not found in the log archive file.	Select DATE function key and enter another date in MM/DD/YY format.
NO MORE THAN 3 PRECIP IDENTIFIERS MAY BE ENTERED: "XXX"	Editing or augmenting of present weather report in PRESENT WX field of one-minute screen (EDIT).	Message appears if the user attempts to enter more than 3 precipitation identifiers.	Correct present weather entry or ABORT.
NO MORE THAN 3 PWX GROUP TYPES MAY BE ENTERED: "XXX"	Editing or augmenting of present weather report in PRESENT WX field of one-minute screen (EDIT).	Message appears if the user attempts to enter an identifier that is in the 4th group type.	Correct present weather entry or ABORT.
NO MORE THAN 3 TS +3 PRECIP IDENTIFIERS MAY BE ENTERED: "XXX"	Editing or augmenting of present weather report in PRESENT WX field of one-minute screen (EDIT).	Message appears if the user attempts to enter more than 3 precipitation identifiers with TS.	Correct present weather entry or ABORT.
NO OBSERVATION TO CORRECT	Editing the last transmitted observation using the command observation screen (CMD-OBS-COR).	Message appears if the user attempts to select the COR function key when the last transmitted observation does not exist.	None.
NO SENSORS CURRENTLY CONFIGURED	Attempting to access CHANG key on REVUE-SITE-VERSN-SENSR Screen.	Message appears if the user attempts to select the CHANG function key when there are no sensors configured.	None.
NO SKY/VISIBILITY SENSORS CONFIGURED	Attempting to access ALGOR key on REVUE-SITE-CONFG-SENSR Screen.	Message appears if user attempts to select ALGOR function key when there are no sky or visibility sensors configured.	None.
NO SPECIAL PENDING	Scheduling a transmit or cancel function on the command observation screen (CMD-OBS-XMIT, CMD-OBS- CNCL).	Message appears if the user attempts to select the XMIT/CNCL function key without a special pending.	None.
NO UNSCHEDULED OBSERVATION ACTIVE	Editing the TORNADIC remark (EDIT-REM-TORN).	Message appears if the user selects the TORN function key and an unscheduled observation does not exist	None.
NOT IN CALLING OR TALKING MODE	Using the phone function.	Message appears if the user is not the caller or answerer.	Follow appropriate steps to use the PHONE key
OID [#1, #2, #3, #4, #5, #6, #7, #8] NOT BEING CALLED	Answering a phone call (CMD-OBS-PHONE-ANSWR).	Message appears if user attempts to answer a phone call when no OID is attempting to call.	None.
ONLY OID-1 LOCAL MAY RECORD	Recording a NOTAM (CMD-VOICE-RCORD).	Message appears if user tries to record a NOTAM when proper OID is not used.	None.

Table 4-1. ASOS User Input Error Messages (Continued)

Error Message	Function	Description	Corrective Action
ONLY OID-1 LOCAL MAY REPLAY	Replaying a NOTAM (CMD-VOICE-RPLAY).	Message appears if user tries to replay a NOTAM when proper OID is not used.	None.
ONLY OID-2 SECONDARY MAY RECORD	Recording a NOTAM (CMD-VOICE-RCORD).	Message appears if user tries to record a NOTAM when proper OID is not used.	None.
ONLY OID-1 LOCAL MAY REPLAY	Replaying a NOTAM (CMD-VOICE-RPLAY).	Message appears if user tries to replay a NOTAM when proper OID is not used.	None.
ONLY ONE CONTROLLER CAN BE SIGNED ON	Signing on system (SIGN).	Message appears if a user attempts to sign-on as a controller if another controller is already signed on.	Sign on as another type of user or wait until the controller signs off.
ONLY ONE DESCRIPTOR PER GROUP IS ALLOWED	Editing or augmenting of present weather report in PRESENT WX field of one-minute screen (EDIT).	Message appears if the user attempts to enter more than one descriptor per group.	Correct present weather entry or ABORT.
ONLY ONE FEW ALLOWED	Editing or augmenting of cloud report in SKY field of one-minute screen (EDIT).	Message appears if the user enters more than one FEW layer description.	Enter only one FEW layer description.
ONLY ONE OBSERVER CAN BE SIGNED ON	Signing on system (SIGN).	Message appears if a user attempts to sign-on as an observer if another observer is already signed on.	Sign on as another type of user or wait until the observer signs off.
ONLY ONE OVC ALLOWED	Editing or augmenting of cloud report in SKY field of one-minute screen (EDIT).	Message appears if the user enters more than one OVC layer description.	Enter only one OVC layer description or ABORT.
ONLY TECHNICIANS MAY TURN ON REPORT PROCESSING	Report processing control of sensor configuration data (REVUE-SENSR-STAT-PROC).	Message appears if a non-technician attempts to turn on the report processing status of a pressure sensor.	Only technicians may turn on report processing of pressure sensors.
PASSWORD IS NOT UNIQUE	Changing the system passwords on the command password screen (CMD-PASSW).	Message appears if the system manager attempts to enter a duplicate password.	Re-enter the password using a unique value.
PASSWORD MUST HAVE AT LEAST 6 CHARACTERS	Changing the system passwords on the command password screen (CMD-PASSW).	Message appears if the system manager attempts to change a password to one that has less than 6 characters.	Re-enter the password with at least 6 characters.
PASSWORD VERIFICATION FAILURE	Changing the system passwords on the command password screen (CMD-PASSW).	Message appears if the system manager does not correctly repeat the entry of the new password for verification.	Select PASSW function key and begin again.
PHONE CALL ALREADY IN PROGRESS BY OID [#1, #2, #3, #4, #5, #6, #7, #8]	Phone Display screen.	Message appears if the user presses CALL while a phone call is in progress.	None.
PRECIP MUST BE NEAREST HUNDREDTH OF AN INCH, T, OR M	Editing the daily precipitation (REVUE-DAILY-CHANG) and monthly precipitation (REVUE-MONTH-CHANG).	Message appears if user attempts to edit precipitation to an invalid value.	Correct entry or ABORT.
PRESS MUST BE NEAREST 0.005 IN (26.000 - 31.000), OR M	Editing the daily station pressure (REVUE-DAILY-CHANG) and monthly station pressure (REVUE-MONTH-CHANG).	Message appears if user attempts to edit the station pressure to an invalid value.	Correct entry or ABORT.
PROC ALREADY IN PROGRESS BY OID [#1, #2, #3, #4, #5, #6, #7, #8]	Turning on/off report processing (REVUE-SENSR-STAT-PROC).	Message appears if user attempts to turn report processing on or off while another OID is already doing so.	Wait until other user is finished.
PROC NOT ALLOWED DURING SYSTEM MODIFICATIONS	Turning on/off report processing (REVUE-SENSR-STAT-PROC).	Message appears if user attempts to turn report processing on or off while system modifications occur on another OID.	Wait until system modifications are completed.
PROC NOT ALLOWED WITH OBSERVER ON PRIMARY OID	Turning on/off report processing (REVUE-SENSR-STAT-PROC).	Message appears if user attempts to turn report processing on or off while an observer is logged in on the primary OID.	Wait until observer logs off.
REMARK MUST BE AT LEAST 3 CHARACTERS	Generating tornadic SPECI observation (GENOB).	Message appears if the user attempts to press RETURN without entering at least three characters in the TORNADIC REMARKS field.	Enter remarks and press RETURN.

Table 4-1. ASOS User Input Error Messages (Continued)

Error Message	Function	Description	Corrective Action
REMOTE SIGN IN NOT AUTHORIZED	Signing on system (SIGN).	Message appears if user attempts to sign on as an observer or air traffic controller from a remote terminal.	Use a local terminal to log on.
REMOTE VERIFICATION FAILURE	Changing the remote password.	Message appears if the system manager does not correctly repeat the entry of the new password for verification.	Begin again.
REPLAY BUFFER NOT VALID	Voice Processor configuration screen (CMD-VOICE).	Message appears if user attempts to replay the current voice message and none has been recorded.	Record a voice message before replaying.
RESET KEY INVALID FOR THIS FIELD	Pressing RESET key.	Message appears if the user attempt to select the RESET function key for a field which should be changed using the CHANG function key.	Use the CHANG function key to correct entry.
RESPONSE MUST BE Y OR N	Responding to verification prompts on various OID display pages.	Message appears if the user enters a character other than Y or N to respond to the verification prompt.	Enter either Y for Yes or N for No and press RETURN key on the OID keyboard.
RINGING OID [#1, #2, #3, #4, #5, #6, #7, #8]	Phoning another OID (CMD-OBS-PHONE-CALL).	Message appears if user attempts to call another OID.	None.
RUNWAY DESIGNATOR MUST BE AN 'L', 'C', OR 'R'.	Editing of RVR report in RVR field of one-minute screen (EDIT).	Message appears if the user attempts to edit the runway designator to an indication other than 'L', 'C', or 'R'.	Correct entry or ABORT.
RUNWAY NUMBER MAY ONLY INCLUDE DIGITS.	Editing of RVR report in RVR field of one-minute screen (EDIT).	Message appears if the user attempts to edit the runway number using characters other than digits.	Correct entry or ABORT.
RUNWAY VALUE MUST PRECEDE '/'.	Editing of RVR report in RVR field of one-minute screen (EDIT).	Message appears if the user attempts to edit the RVR report with no runway value preceding the '/'.	Correct entry or ABORT.
RUNWAY VALUE MAY NOT EXCEED 3 CHARACTERS.	Editing of RVR report in RVR field of one-minute screen (EDIT).	Message appears if the user attempts to edit the runway value using more than 3 characters.	Correct entry or ABORT.
RVR VALUE '6000' MUST FOLLOW 'P'.	Editing of RVR report in RVR field of one-minute screen (EDIT).	Message appears if the user attempts to enter a RVR value other than '6000' following a 'P' indication.	Correct entry or ABORT.
SEA PRESS MUST BE NEAREST HUNDREDTH (26.00 - 31.00), OR M	Editing the daily sea level pressure (REVUE-DAILY-CHANG) and monthly sea level pressure (REVUE-MONTH-CHANG).	Message appears if user attempts to edit the sea level pressure to an invalid value.	Correct entry or ABORT.
SNOW DEPTH MUST BE 0 - 1000, T, M, OR N	Editing the daily snow depth (REVUE-DAILY-CHANG) and monthly snow depth (REVUE-MONTH-CHANG).	Message appears if user attempts to edit the snow depth to an invalid value.	Correct entry or ABORT.
SNOWFALL MUST BE NEAREST TENTH OF AN INCH, T, M, OR N	Editing the daily snow fall (REVUE-DAILY-CHANG) and monthly snow fall (REVUE-MONTH-CHANG).	Message appears if user attempts to edit the snow fall to an invalid value.	Correct entry or ABORT.
SPACE REQUIRED AFTER EACH LAYER	Editing or augmenting of cloud report in SKY field of one-minute screen (EDIT).	Message appears if the user has not entered a space after each layer (layer = symbol + height).	Enter space after each layer.
SPECI ALREADY PENDING. MANUAL SPECI NOT ALLOWED.	Manual generation of special observations (GENOB-SPEC).	Message appears if user attempts to create a manual special when a system created special is already pending.	Wait until the pending special is sent.
SPECI NOT GENERATED. EDIT NOT ALLOWED	Editing observation (GENOB-EDIT).	Message appears if user attempts to select EDIT function key when an TORNADIC SPECI or SPECI is not generated.	Create a TORNADIC SPECI or SPECI.
SPECI NOT ALLOWED DURING HOURLY	Generating a SPECI.(GENOB-SPEC-EDIT-EXIT).	Message appears if user generates a SPECI during the edit time of an hourly.	When hourly goes out, edits will be included.
SUNSHINE MINUTES MUST BE 0 - 1440, M, OR N	Editing the daily sunshine minutes (REVUE-DAILY-CHANG).	Message appears if user attempts to edit the sunshine minutes to an invalid value.	Correct entry or ABORT.

Table 4-1. ASOS User Input Error Messages (Continued)

Error Message	Function	Description	Corrective Action
TD WS PW V1 V2 V3 SD FR FP SS C1 C2 C3 TB TS P1 P2 P3	Changing the sensor configuration (REVUE SITE CONFG SENSR CHANG).	Message appears if the user attempts to configure an invalid sensor type.	Correct entry, using one of the valid sensor types listed in the error message, or ABORT.
TEMP MUST BE GREATER THAN OR EQUAL DEWPOINT	Editing of temperature report in TEMP/DEW field of one-minute screen (EDIT).	Message appears if user attempts to enter a temperature that is less than the current dewpoint.	Correct temperature entry or ABORT.
TIME NOT FOUND	Entering a start time to describe the beginning of a 2-hour 5-minute observation archive file (REVUE-OBS-5MIN-ARC2H).	Message appears if the user attempts to enter a start time in correct HHMM format that does not match a time in the 5-minute observation archive file.	Select ARC2H function key and enter another time in HHMM format.
TORNADIC SPECI NOT ACTIVE/SPECI ACTIVE	Editing remarks (GENOB-REM).	Message appears if user attempts to select the REM function key when an TORNADIC SPECI is not active.	Create a TORNADIC SPECI or wait until the pending SPECI is sent.
TWR EDIT ALREADY IN PROGRESS BY OID [#1, #2, #3, #4, #5, #6, #7, #8]	Editing the tower visibility data (TWR).	Message appears if user attempts to edit while another user is already editing the tower visibility.	None. Must wait until initial user has completed edits.
UNABLE TO SETUP VOICE PROCESSOR	Voice Processor Configuration screen (CMD-VOICE).	Message appears if ATC/TEC attempts to configure the voice processor and gets no response.	Get a technician to verify the voice processor is functional.
UNABLE TO TALK TO VOICE PROCESSOR	Voice Processor configuration screen (CMD-VOICE).	Message appears if ATC/TEC attempts to configure the voice processor and gets no response.	Get technician to verify the voice processor is functional.
UPLOAD CAN NOT BE REQUESTED AT THIS TIME	Scheduling an upload (REVUE-SITE-VERSN-AOMC-UP-LD).	Message appears if user selects the UP-LD function key for a data file that is not appropriate.	None.
"USR" (ATC) AUTOMATICALLY LOGGED OFF	Signing on system (SIGN).	Message appears if user signs on while an air traffic controller is already logged in. ATC is logged off.	None.
"USR" (SYS) AUTOMATICALLY LOGGED OFF	Signing on system (SIGN).	Message appears if user signs on while a system manager is already logged in. SYS is logged off.	None.
"USR" (TEC) AUTOMATICALLY LOGGED OFF	Signing on system (SIGN).	Message appears if user signs on while a technician is already logged in. TEC is logged off.	None.
"USR" (OBS) AUTOMATICALLY LOGGED OFF	Signing on system (SIGN).	Message appears if user signs on while an observer is already logged in. OBS is logged off.	None.
USE KEYBOARD KEYS TO UPDATE FIELD VALUE	Editing data on the REVUE-SITE-PHYS, REVUE-SITE-CONFG-COMMS, and REVUE-SITE-CONFG-EXTRN screens.	Message appears if user attempts to use a sequence key to edit a field which is changed with keyboard keys.	Correct entry or ABORT.
USE SEQN KEY TO UPDATE FIELD VALUE	Editing data on the REVUE-SITE-PHYS and REVUE-SITE-CONFG-EXTRN screens.	Message appears if user attempts to edit a field which is changed with a sequence key.	Use the sequence key to select appropriate value.
USE SEQN KEY TO UPDATE MODEM SLOT VALUE	Editing modem# on ACU serial communications display (REVUE-SITE-CONFG-COMMS).	Message appears if user attempts to edit the modem slot value with keyboard keys.	Use the sequence key to change the modem slot value.
VALID VALUE IS P1, P2, P3 OR **	Changing the sensor configuration (REVUE-SITE- CONFG-SENSR-CHANG).	Message appears if the user attempts to enter a pressure sensor code that is not P1, P2, P3, or **.	Correct entry or ABORT.
VALUE MUST BE IN RANGE 0 - "000 - 255"	Setting up GTA Radio Power Level (REVUE-SITE-CONFG-COMMS).	Message appears if the user attempts to input a GTA Radio Power Level that is not within the limits.	Correct power level entry or ABORT.
VAR MAX WIND DIR MUST BE ROUNDED TO NEAREST TEN DEGREES.	Editing of display wind report in WIND field of one-minute screen (EDIT).	Message appears if the user attempts to edit the variable maximum wind direction and the least significant digit is not a 0.	Correct wind entry or ABORT.
VAR MIN WIND DIR MUST BE ROUNDED TO NEAREST TEN DEGREES.	Editing of display wind report in WIND field of one-minute screen (EDIT).	Message appears if the user attempts to edit the variable minimum wind direction and the least significant digit is not a 0.	Correct wind entry or ABORT.

Table 4-1. ASOS User Input Error Messages (Continued)

Error Message	Function	Description	Corrective Action
VARIABLE MAX WIND DIR MAY ONLY INCLUDE DIGITS.	Editing of display wind report in WIND field of one-minute screen (EDIT).	Message appears if the user attempts to edit the variable maximum wind direction using characters other than digits.	Correct wind entry or ABORT.
VARIABLE MAX WIND DIRECTION MUST FOLLOW 'V'.	Editing of display wind report in WIND field of one-minute screen (EDIT).	Message appears if the user attempts to edit the variable maximum wind direction with no maximum wind direction following the "V".	Correct wind entry or ABORT.
VARIABLE MAX WIND DIR MAY NOT EXCEED 3 CHARACTERS.	Editing of display wind report in WIND field of one-minute screen (EDIT).	Message appears if the user attempts to edit the variable maximum wind direction using more than 3 characters.	Correct wind entry or ABORT.
VARIABLE MIN WIND DIR MAY NOT EXCEED 3 CHARACTERS.	Editing of display wind report in WIND field of one-minute screen (EDIT).	Message appears if the user attempts to edit the variable minimum wind direction using more than 3 characters.	Correct wind entry or ABORT.
VARIABLE MIN WIND DIR MAY ONLY INCLUDE DIGITS.	Editing of display wind report in WIND field of one-minute screen (EDIT).	Message appears if the user attempts to edit the variable minimum wind direction using characters other than digits.	Correct wind entry or ABORT.
VARIABLE MIN WIND DIRECTION MUST PRECEDE 'V'.	Editing of display wind report in WIND field of one-minute screen (EDIT).	Message appears if the user attempts to edit the variable minimum wind direction with no minimum wind direction preceding the "V".	Correct wind entry or ABORT.
VARIABLE MIN/MAX WIND DIR MUST HAVE WIND SPEED > 6 KNOTS.	Editing of display wind report in WIND field of one-minute screen (EDIT).	Message appears if the user attempts to enter a wind speed of less than 7 knots while a variable min/max wind direction exists.	Correct wind entry or ABORT.
VARIABLE WIND DIR MUST HAVE 2 < WIND SPEED < 7 KNOTS.	Editing of display wind report in WIND field of one-minute screen (EDIT).	Message appears if user attempts ho enter a wind speed of 0 knots or greater than 6 knots while "VRB" wind direction exists.	Correct wind entry or ABORT.
VV LAYER HEIGHT MAY NOT EXCEED 3 CHARACTERS: "XXX"	Editing of cloud report in SKY field of one-minute screen (EDIT).	Message appears if the user attempts to enter a VV layer height with more than 3 characters.	Correct cloud report entry or ABORT.
VV000 THRU VV020 IS REQUIRED FOR VERTICAL VISIBILITY	Editing of cloud report in SKY field of one-minute screen (EDIT).	Message appears if the user attempts to enter a VV layer height that is not within the 000-020 range.	Correct cloud report entry or ABORT.
'V' NEEDED TO SEPARATE VARIABLE MIN/MAX WIND DIRECTIONS.	Editing of display wind report in WIND field of one-minute screen (EDIT).	Message appears if user attempts to edit a variable min and max wind direction without "V" separating the 2 values.	Correct wind entry or ABORT.
WARNING: AIRPORT OUTPUT OR NOTAM ENABLE WAS CHANGED	Changing voice parameters on the voice screen (CMD-VOICE).	Message appears if theATC/TEC exits the voice processor page and the displayed parameters have been changed by the system since entering the page.	None.
WIND DIRECTION MAY NOT EXCEED 3 CHARACTERS.	Editing of display wind report in WIND field of one-minute screen (EDIT).	Message appears if the user attempts to edit the wind direction using more than 3 characters.	Correct wind direction entry or ABORT.
WIND DIRECTION MAY ONLY INCLUDE DIGITS.	Editing of display wind report in WIND field of one-minute screen (EDIT).	Message appears if the user attempts to edit the wind direction and uses alphabetic characters.	Correct wind direction entry or ABORT.
WIND DIRECTION MUST BE ROUNDED TO NEAREST TEN DEGREES.	Editing of display wind report in WIND field of one-minute screen (EDIT).	Message appears if the user attempts to edit the wind direction and the least significant digit is not a 0.	Correct wind direction entry or ABORT.
WIND DIRECTION MUST PRECEDE '/'.	Editing of display wind report in WIND field of one-minute screen (EDIT).	Message appears if the user attempts to edit the wind field and does not enter a direction before the slash.	Correct wind direction entry or ABORT.
WIND DIR OF 0 DEG MUST HAVE WIND SPEED OF 0 KNOTS.	Editing of display wind report in WIND field of one-minute screen (EDIT).	Message appears if the user attempts to edit a wind speed other than 0 knots when direction is 0 degrees.	Correct wind direction and/ or wind speed entry or ABORT.
WIND SPEED MAY NOT EXCEED 3 CHARACTERS.	Editing of display wind report in WIND field of one-minute screen (EDIT).	Message appears if the user attempts to edit the wind speed and uses more than 3 characters.	Correct wind speed entry or ABORT.

Table 4-1. ASOS User Input Error Messages (Continued)

Error Message	Function	Description	Corrective Action
WIND SPEED MAY ONLY INCLUDE DIGITS.	Editing of display wind report in WIND field of one-minute screen (EDIT).	Message appears if the user attempts to edit the wind speed and uses alphabetic characters.	Correct wind speed entry or ABORT.
WIND SPEED MUST FOLLOW '/'.	Editing of display wind report in WIND field of one-minute screen (EDIT).	Message appears if the user attempts to edit the wind field and does not enter a speed after the slash.	Correct wind speed entry or ABORT.
WIND SPEED OF 0 KNOTS MUST HAVE WIND DIR OF 0 DEG.	Editing of display wind report in WIND field of one-minute screen (EDIT).	Message appears if the user attempts to edit a wind direction other than 0 degrees when speed is 0 knots.	Correct wind direction and/or wind speed entry or ABORT.
XMIT NOT ALLOWED DURING HOURLY PERIOD	Scheduling a transmit function on the command observation screen (CMD-OBS-XMIT).	Message appears if the user attempts to select the XMIT function key during the hourly report time.	None.
XMIT NOT ALLOWED DURING SYSTEM MODIFICATIONS	Transmitting an observation. (GENOB-SPEC-XMIT, CMD-OBS-XMIT).	Message appears if the user attempts to transmit an observation while system modifications are occurring on another OID.	Wait until system modifications are completed.
YOU ARE BEING CALLED BY OID [#1, #2, #3, #4, #5, #6, #7, #8]	Another OID calling the current OID.	Message appears if another user on another OID attempts to call the current OID.	Answer the call (CMD-OBS-PHONE-ANSWR).
YOU ARE STILL CALLING OID [#1, #2, #3, #4, #5, #6, #7, #8]	Phone display screen.	Message appears if the user attempts to call another OID while a phone call is in progress.	None.
000 IS AN INVALID LAYER HEIGHT	Editing of cloud report in SKY field of one-minute screen (EDIT).	Message appears if the user attempts to edit the cloud report using an incorrect layer height.	Correct cloud report entry or ABORT.
'/' CHARACTER MUST SEPARATE RUNWAY VALUE AND RVR VALUES.	Editing of RVR report in RVR field of one-minute screen (EDIT).	Message appears if the user does not separate the runway value and RVR values with a '/'.	Correct RVR report entry or ABORT.
'/' CHARACTER NEEDED TO SEPARATE WIND DIR AND SPEED FIELDS.	Editing of display wind report in WIND field of one-minute screen (EDIT).	Message appears if the user attempts to edit the wind direction and speed and does not use a slash between the values.	Correct wind direction and/or wind speed entry or ABORT.
'-' NOT VALID WITH ASSOCIATED PWX IDENTIFIER	Editing or augmenting in PRESENT WX field of one-minute screen (EDIT).	Message appears if the user attempts to input present weather identifiers with intensity modifiers where there is one intensity modifier too many.	Correct present weather entry or ABORT.
'+' NOT VALID WITH ASSOCIATED PWX IDENTIFIER	Editing or augmenting in PRESENT WX field of one-minute screen (EDIT).	Message appears if the user attempts to input present weather identifiers with intensity modifiers where there is one intensity modifier too many.	Correct present weather entry or ABORT.

4.2   SYSTEM LOG ERROR MESSAGES.

The following is a list of messages sent to the SYSLOG when an error is detected by the continuous system self-test. When a faulty Field Replaceable Unit (FRU) is identified, the corrective action is to replace it: Instructions are provided in the Maintenance Manual. Messages not associated with FRUs are for general information purposes and require no corrective action. Error codes are assigned sequentially, unless otherwise specified, beginning with the first number in the associated group.

Table 4-2. System Log Error Messages

Number	System Log Error
CPU Error Codes (100-141)	
100	Primary CPU Bus Error (Replace)
104	Primary CPU DRAM Error (Replace)
108	Primary CPU EPROM Error (Replace)
112	Primary CPU Transmission Error Serial Port 1 (Replace)
116	Primary CPU Transmission Error Serial Port 2 (Replace)
120	Primary CPU Loopback Error Serial Port 1 (Replace)
124	Primary CPU Loopback Error Serial Port 2 (Replace)
128	Redundant CPU A Failure (Replace)
132	Redundant CPU B Failure (Replace)
140	System Activated - Warm Start Performed
141	System Activated - Cold Start Performed
Communications Status Error Codes (200-201)	
200	Failed Loopback Test
201	Transmission Errors
Maintenance Action Error Codes (245 - 249)	
245	Maintenance Action,
246	Preventative Maintenance Performed for Agency Stock Number
247	Corrective Maintenance Performed for Agency Stock Number
248	Calibration Maintenance Performed for Agency Stock Number
249	Maintenance Performed Using Field Modification Kit Number
Graphic Error Codes (250-254)	
250	Graphic Board 6845 CRT Controller Failure
251	Graphic Board 68230 Parallel Interface/ Timer Readback Failure
252	Graphic Board 8530 Loopback #1 Failure
253	Graphic Board 8530 Loopback #2 Failure
254	Graphic Board 58167 RT Clock Readback Failure
Power Control Error Codes (350-379)	
350	Temperature/Dewpoint Sensor Power Commanded Off Remained On
351	HO83 Sensor Power Commanded Off Remained On
352	Wind Sensor Power Commanded Off Remained On
353	Present Weather #1 Sensor Power Commanded Off Remained On
354	Thunderstorm Sensor Power Commanded Off Remained On
355	Visibility #1 Sensor Power Commanded Off Remained On
356	Visibility #2 Sensor Power Commanded Off Remained On
357	Visibility #3 Sensor Power Commanded Off Remained On
358	Snow Depth Sensor Power Commanded Off Remained On
359	Freezing Rain Sensor Power Commanded Off Remained On
360	Frozen Precipitation Sensor Power Commanded Off Remained On
361	Sunshine Sensor Power Commanded Off Remained On
362	Ceilometer #1 Sensor Power Commanded Off Remained On
363	Ceilometer #2 Sensor Power Commanded Off Remained On
364	Ceilometer #3 Sensor Power Commanded Off Remained On
365	Temperature/Dewpoint Sensor Power Commanded On Remained Off

Table 4-2. System Log Error Messages (Continued)

Number	System Log Error
366	HO83 Sensor Power Commanded On Remained Off
367	Wind Sensor Power Commanded On Remained Off
368	Present Weather #1 Sensor Power Commanded On Remained Off
369	Thunderstorm Sensor Power Commanded On Remained Off
370	Visibility #1 Sensor Power Commanded On Remained Off
371	Visibility #2 Sensor Power Commanded On Remained Off
372	Visibility #3 Sensor Power Commanded On Remained Off
373	Snow Depth Sensor Power Commanded On Remained Off
374	Freezing Rain Sensor Power Commanded On Remained Off
375	Frozen Precipitation Sensor Power Commanded On Remained Off
376	Sunshine Sensor Power Commanded On Remained Off
377	Ceilometer #1 Sensor Power Commanded On Remained Off
378	Ceilometer #2 Sensor Power Commanded On Remained Off
379	Ceilometer #3 Sensor Power Commanded On Remained Off
Configure/Deconfigure Sensor Messages (380-415)	
380	Temp/Dewpoint Sensor Configured
381	Wind Speed/Dir Sensor Configured
382	Present Weather Sensor Configured
383	Visibility #1 Sensor Configured
384	Visibility #2 Sensor Configured
385	Visibility #3 Sensor Configured
386	Snow Depth Sensor Configured
387	Freezing Rain Sensor Configured
388	Frozen Precip Sensor Configured
389	Sunshine Sensor Configured
390	Ceilometer #1 Sensor Configured
391	Ceilometer #2 Sensor Configured
392	Ceilometer #3 Sensor Configured
393	Tipping Bucket Sensor Configured
394	Thunderstorm Sensor Configured
395	Pressure Sensor #1 Sensor Configured
396	Pressure Sensor #2 Sensor Configured
397	Pressure Sensor #3 Sensor Configured
398	Temp/Dewpoint Sensor Deconfigured
399	Wind Speed/Dir Sensor Deconfigured
400	Present Weather Sensor Deconfigured
401	Visibility #1 Sensor Deconfigured
402	Visibility #2 Sensor Deconfigured
403	Visibility #3 Sensor Deconfigured
404	Snow Depth Sensor Deconfigured
405	Freezing Rain Sensor Deconfigured
406	Frozen Precip Sensor Deconfigured
407	Sunshine Sensor Deconfigured
408	Ceilometer #1 Sensor Deconfigured
409	Ceilometer #2 Sensor Deconfigured
410	Ceilometer #3 Sensor Deconfigured
411	Tipping Bucket Sensor Deconfigured
412	Thunderstorm Sensor Deconfigured
413	Pressure Sensor #1 Sensor Deconfigured
414	Pressure Sensor #2 Sensor Deconfigured
415	Pressure Sensor #3 Sensor Deconfigured

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Table 4-2. System Log Error Messages (Continued)

Number	System Log Error
Memory Error Codes (450- 458)	
450	ACU Memory Board #1 EPROM Checksum Failure (Replace)
451	ACU Memory Board #2 EPROM Checksum Failure (Replace)
452	ACU Memory Board #1 SRAM Checksum Failure (Replace)
453	ACU Memory Board #2 SRAM Checksum Failure (Replace)
454	ACU Memory Board #3 SRAM Checksum Failure (Replace)
455	ACU PSD Memory Board Failure (Replace)
456	DCP #1 Memory Board SRAM Checksum Failure (Replace)
457	DCP #2 Memory Board SRAM Checksum Failure (Replace)
458	DCP #3 Memory Board SRAM Checksum Failure (Replace)
Modem Error Codes (460)	
460	Analog Loopback Failure (Replace)
SIO Error Codes (500-523)	
500	Loopback Error (Replace)
523	Transmission Error (Replace)
Voice Error Codes (700-703)	
700	Watchdog timer (Replace)
701	CPU Test from Digital I/O Failure (Replace)
702	Audio Output from Digital I/O Failure (Replace)
703	Audio Status from Processor Failure (Replace)
A/D Error Codes (750-757)	
750	Register Read Error in A/D Convertor (Replace)
757	Reference Voltage Errors in A/D Convertor (Replace)
Power Parameters Error Codes (800-951)	
800	Output is Disabled
807	Is On Battery Power
814	High Battery
821	Low Battery
828	Dead Battery
835	TRIAC Tap Changer Open or Shorted
842	Over Temperature Switch Activated
849	RS232 Transmission Error
856	Watchdog Timer Timeout
863	AC Power Restored
870	+2.5 Volts Reference Out of Tolerance
871	+5 Volts Supply A Out of Tolerance
872	+5 Volts Supply B Out of Tolerance
873	+12 Volts Supply A Out of Tolerance
874	+12 Volts Supply B Out of Tolerance
875	-12 Volts Supply A Out of Tolerance
876	-12 Volts Supply B Out of Tolerance
877	+5 Volts VME Rack Out of Tolerance
878	+12 Volts VME Rack Out of Tolerance
879	-12 Volts VME Rack Out of Tolerance
880	+5 Volts RF Modem A Out of Tolerance
881	+5 Volts RF Modem B Out of Tolerance
882	+12 Volts RF Modem A Out of Tolerance
883	+12 Volts RF Modem B Out of Tolerance
884	-12 Volts RF Modem A Out of Tolerance
885	-12 Volts RF Modem B Out of Tolerance
928	Failed. (Replace Supply)
930	Abnormal Operation
937	Inverter Failure
944	Ground Failure

Table 4-2. System Log Error Messages (Continued)

Number	System Log Error
951	Utility Failure
Ceilometer Error Codes (1000-1017)	
1000	Ceilometer #1 Hardware Alarm (See Site Technical Manual for Ceilometer)
1001	Ceilometer #2 Hardware Alarm (See Site Technical Manual for Ceilometer)
1002	Ceilometer #3 Hardware Alarm (See Site Technical Manual for Ceilometer)
1003	Ceilometer #1 Voltage Failure (See Site Technical Manual for Ceilometer)
1004	Ceilometer #2 Voltage Failure (See Site Technical Manual for Ceilometer)
1005	Ceilometer #3 Voltage Failure (See Site Technical Manual for Ceilometer)
1006	Ceilometer #1 Laser Power Low (See Site Technical Manual for Ceilometer)
1007	Ceilometer #2 Laser Power Low (See Site Technical Manual for Ceilometer)
1008	Ceilometer #3 Laser Power Low (See Site Technical Manual for Ceilometer)
1009	Ceilometer #1 Temperature Failure (See Site Technical Manual for Ceilometer)
1010	Ceilometer #2 Temperature Failure (See Site Technical Manual for Ceilometer)
1011	Ceilometer #3 Temperature Failure (See Site Technical Manual for Ceilometer)
1012	Ceilometer #1 Data Quality Bad
1013	Ceilometer #2 Data Quality Bad
1014	Ceilometer #3 Data Quality Bad
1015	Ceilometer #1 Sensor Response Timeout (Check Fiber Optic FRU, then See Site Technical Manual for Ceilometer)
1016	Ceilometer #2 Sensor Response Timeout (Check Fiber Optic FRU, then See Site Technical Manual for Ceilometer)
1017	Ceilometer #3 Sensor Response Timeout (Check Fiber Optic FRU, then See Site Technical Manual for Ceilometer)
Temperature/Dewpoint Error Codes (1150-1167)	
1150	Temperature/Dewpoint Sensor Response Error (Check +5 V Power Supply FRU, then Fiber Optic FRU, then Transmit Logic FRU, then Aux Power FRU)
1151	Ta 0 Degree C Calibration Error (Check Enclosure ,then Transmit Logic Board FRU)
1152	Ta 50 Degree C Calibration Error (Check Enclosure, then Transmit Logic Board FRU)
1153	Td 0 Degree C Calibration Error (Check Enclosure, then Transmit Logic Board FRU)
1154	Td 50 Degree C Calibration Error (Check Enclosure, then Transmit Logic Board FRU)
1155	Simulated Data Error (Check Transmit Logic Board, then Fiber Optic FRU)
1156	Aspirator Fan Failure (Check Aspirator FRU, then Transmit Logic Board FRU)
1157	0 Degree C Calibration Error (Check Transmit Logic Board FRU)
1158	50 Degree C Calibration Error (Check Transmit Logic Board FRU)
1159	RTD Error (Check Aspirator FRU)
1160	Mirror Servo Error (Check Aspirator FRU, then Transmit Logic Board FRU, then Heat Cycle FRU)
1161	Critical Voltage Error (Check +5 Voltage Power Supply FRU, then Aux Power Supply FRU, then Transmit Logic Board FRU)
1162	Dirty Mirror Flag (Check Aspirator FRU, then Heat Cycle Board FRU)
1163	Temperature Data Quality Error
1164	Dewpoint Data Quality Error
1165	Autobalance1088 Heat Cycle Occurred Twice in 11 Hours
1166	1088 Heat Cycle Duration Greater Than 15 Minutes
1167	1088 No Heat Cycle in 25 Hours
LEDWI Present Weather Error Codes (1200-1214)	
1200	Response Timeout (Check Power Supply FRU, then Fiber Optic FRU, then Microprocessor Board FRU
1201	Simulated Event Error
1202	Simulated Amount Error
1203	Checksum Error (Check Fiber Optic FRU, then Microprocessor card
1204	FRU #8 and #6 Error Code (Replace Transmitter/Digital Power Supply FRU or Microprocessor Board FRU)
1205	FRU #7 Error Code (Replace Analog power supply FRU)
1206	FRU #2 Error Code (Replace Transmitter card FRU)
1207	FRU #3 Error Code (Replace receiver AGC card FRU)
1208	FRU #4 Error Code (Replace Signal Processing card 1 FRU)
1209	FRU #5 Error Code (Replace Signal Processing card 2 FRU)
1210	FRU #9 Error Code (Replace Hood Heater Power Supply FRU or Microprocessor Card FRU)
1211	FRU #1 Error Code (Replace Headpiece FRU)

Table 4-2. System Log Error Messages (Continued)

Number	System Log Error
1212	Diagnostic Data Checksum Error
1213	Data Quality Error
1214	Software Reset Occurred
Visibility Error Codes (1250-1408)	
1250	Sensor V2 Response Timeout (Check Fiber Optic FRU)
1253	Sensor VG Response Timeout (Check Fiber Optic FRU)
1256	Simulated Photometer Error
1259	Simulated Extinction Coefficient Error
1262	Simulation Data Checksum Error
1265	Sensor Status Failure
1268	Receiver ±15 volts Failure (Check cables first, then Rvcr ±15V Power Supply FRU, then Receiver Module FRU)
1271	Transmitter ±15V Failure (Check cables first, then Trans ±15V Power Supply FRU, then Transmitter Module FRU)
1274	Transmitter +5 volts Failure (Check cables first, then Transmitter Module FRU)
1277	Transmitter +600 volts Failure (Replace Transmitter Module FRU)
1280	Transmitter +130 volts Failure (Check cables first, then Transmitter Module FRU)
1283	Processor ±15 volts Failure (Check harness first, then Proc ±15V Power Supply FRU, then Controller Module FRU)
1286	Processor +5 volts Failure (Check harness first, then Proc ±5V Power Supply FRU, then Controller Module FRU)
1289	Inside Ambient Temperature Failure (Check Heaters, Thermostats or Controller FRU)
1292	Outside Ambient Temperature Failure
1295	Xenon Lamp Error (Replace Transmitter Module FRU)
1298	Day/Night window heater Failure (Replace Day/Night Sensor FRU)
1301	Processor Electronic heater Failure (Heaters are faulty, Replace Enclosure)
1304	Transmitter hood heater Failure (Replace Transmitter Heater Crossarm)
1307	Receiver hood heater Failure (Replace Receiver Heater Crossarm)
1310	Day/Night hood heater Failure (Replace Day/Night Sensor FRU)
1313	Transmitter Electronics heater Failure (Replace Transmitter Module FRU)
1316	Receiver Electronics heater Failure (Replace Receiver Module FRU)
1319	Day/Night Electronics heater Failure (Replace Day/Night Sensor FRU)
1322	Transmitter window heater Failure (Replace Transmitter Heater Crossarm)
1325	Receiver window heater Failure (Replace Receiver Heater Crossarm)
1328	Receiver Electronics heater simulation Failure (Check Current Sense FRU first, then Controller Module FRU)
1331	Processor Electronics heater simulation Failure (Check Current Sense FRU first, then Controller Module FRU)
1334	Day/Night Electronics heater simulation Failure (Check Current Sense FRU first, then Controller Module FRU)
1337	Transmitter Electronics heater simulation Failure (Check Current Sense FRU first, then Controller Module FRU)
1340	Day/Night window heater simulation Failure (Check Current Sense FRU first, then Controller Module FRU)
1343	Receiver window heater simulation Failure (Check Current Sense FRU first, then Controller Module FRU)
1346	Transmitter window heater simulation Failure (Check Current Sense FRU first, then Controller Module FRU)
1349	Receiver hood heater simulation Failure (Check Current Sense FRU first, then Controller Module FRU)
1352	Day/Night hood heater simulation Failure (Check Current Sense FRU first, then Controller Module FRU)
1355	Transmitter hood heater simulation Failure (Check Current Sense FRU first, then Controller Module FRU)
1358	External Temperature simulation Failure (Replace Controller Module FRU)
1361	Receiver detector simulation Failure (Replace Receiver Module FRU)
1364	Day/Night detector simulation Failure (Replace the Day/Night Sensor FRU)
1367	Transmitter age detector simulation Failure (Replace the Controller Module FRU)
1370	Enclosure Temperature simulation Failure (Replace Controller Module FRU)
1373	RAM Check Error (Replace the Controller FRU)
1376	ROM Check Error (Replace the Controller FRU)
1379	Address Check Error (Replace the Controller FRU)
1382	EEPROM Check Error (Replace the Controller FRU)
1385	Diagnostic Data Checksum Error (Check the Fiber Optic Module FRU)
1388	Visibility Data Quality Failure
1391	Photometer Data Quality Failure
1394	Enclosure Electronics heater Failure
1397	Receiver Operational Status Failure

Table 4-2. System Log Error Messages (Continued)

Number	System Log Error
1400	Transmitter Operational Status Failure
1403	Day/Night Operational Status Failure
1406	RVR inoperational
1407	RVR operational
1408	Heater Thermostat Failure
Wind Sensor Error Codes (1550-1573)	
1550	Sensor Response Timeout (Check Fiber Optic FRU, then Direction Sensor FRU, then Power Supply Module FRU)
1551	Simulated Wind Direction Error (Replace Direction Sensor FRU)
1552	Simulated Wind Speed Error (Replace Direction Senor FRU)
1553	Simulated Data Checksum Error (Check Fiber Optic FRU, then Direction Sensor FRU)
1554	Status Error
1555	Wind Speed Head Error (Check Speed Sensor FRU, then Direction Sensor FRU)
1556	Wind Direction Head Error (Check Direction Sensor FRU)
1557	Voltage Out of Range (Check Power Supply FRU, then Direction Head FRU)
1558	Wind Speed Sensor Head Missing (Check Speed Sensor FRU, then Direction Sensor FRU)
1559	Wind Speed Temperature Error (Check Speed Sensor FRU, then Direction Sensor FRU)
1560	Wind Direction Temperature Error (Check Direction Sensor FRU)
1561	Hall Effect Transducer Error (Check Speed Sensor FRU)
1562	Fatal Hardware/Software Error (Check Direction Sensor FRU)
1563	+5 Volts Failure (Check Power Supply FRU)
1564	Ground Voltage Failure (Clean ground connections, then Power Supply FRU)
1565	Direction Head Temperature Out of limits
1566	Speed Head Temperature Out of limits
1567	RAM Check Error (Replace Direction Sensor FRU)
1568	ROM Check Error (Replace Direction Sensor FRU)
1569	Magnet Check Error (Replace Direction Sensor FRU)
1570	Encoder Check Error (Replace Direction Sensor FRU)
1571	Diagnostic Data Checksum Error (Check Fiber Optic FRU, then Direction Sensor FRU)
1572	Data Quality Check Error
1573	Wind Direction Sensor Head Missing (Check Speed Sensor FRU, then Direction Sensor FRU)
Pressure Error Code (1600-1611)	
1600	Pressure Sensor #1 Sensor Response Timeout (Check Cables, then Pressure Sensor FRU)
1601	Pressure Sensor #1 Data Quality Check Error
1605	Pressure Sensor #2 Sensor Response Timeout (Check Cables, then Pressure Sensor FRU)
1606	Pressure Sensor #2 Data Quality Check Error
1610	Pressure Sensor #3 Sensor Response Timeout (Check Cables, then Pressure Sensor FRU)
1611	Pressure Sensor #3 Data Quality Check Error
Cabinet Temperature (1640-1649)	
1640	Cabinet Temperature Out of Range - Disabling Pressure Sensors
1641	Cabinet Temperature Out of Range
1645	Cabinet Temperature is within Pressure Sensor Operational Range
HO83 Error Codes (1650-1656)	
1650	HO83 Sensor Response Timeout
1651	HO83 Sensor Thermal Runaway Error
1652	HO83 Sensor Temperature Data Quality Error
1653	HO83 Sensor Dewpoint Data Quality Error
1654	HO83 Heat Cycle Occurred Twice in 11 Hours
1655	HO83 Heat Cycle Duration Greater Than 15 Minutes
1656	HO83 No Heat Cycle in 25 Hours

Table 4-2. System Log Error Messages (Continued)

Number	System Log Error
Freezing Rain Page Error Codes (1750-1759)	
1750	Sensor Response Timeout
1751	Probe Failure
1752	Probe Deicing Heater Failure
1753	Electronics Failure
1754	Data Quality Check Error
1755	REQ DEICE FOR 30 SEC, FAILURE
1756	REQ DEICE FOR 30 SEC (NOT ALLOWED)
1757	REQ DEICE for 45 SEC (NOT ALLOWED)
1758	FREEZING RAIN SENSOR INOPERATIVE
1759	REQ DEICE FOR 45 SEC, FAILURE
Thunderstorm Error Codes (1760-1769)	
1760	Response Timeout
1761	Self-test Failure
1762	Input < 11V
1763	Input > 13V
1764	5V Low
1765	10V Low
1766	Data Quality Failure
1767	Thunderstorm Sensor Operational
1768	Thunderstorm Sensor Inoperational
1769	Thunderstorm Reading Missing
Sunshine Error Codes (1801)	
1801	Sunshine Switch Sensor Response Timeout
Snow Depth Error Codes (1850)	
1850	Snow Depth Sensor Response Timeout
Frozen Precipitation Water Error Codes (1900)	
1900	Frozen Precipitation Water Sensor Response Timeout
Sensor Port Error Codes (1901-1916)	
1901	LOCAL SENSOR PORT #1 IS INOPERATIVE
1902	LOCAL SENSOR PORT #2 IS INOPERATIVE
1903	LOCAL SENSOR PORT #3 IS INOPERATIVE
1904	LOCAL SENSOR PORT #4 IS INOPERATIVE
1905	LOCAL SENSOR PORT #5 IS INOPERATIVE
1906	LOCAL SENSOR PORT #6 IS INOPERATIVE
1907	LOCAL SENSOR PORT #7 IS INOPERATIVE
1908	LOCAL SENSOR PORT #8 IS INOPERATIVE
1909	LOCAL SENSOR PORT #9 IS INOPERATIVE
1910	LOCAL SENSOR PORT #10 IS INOPERATIVE
1911	LOCAL SENSOR PORT #11 IS INOPERATIVE
1912	LOCAL SENSOR PORT #12 IS INOPERATIVE
1913	LOCAL SENSOR PORT #13 IS INOPERATIVE
1914	PRESSURE SENSOR PORT #1 IS INOPERATIVE
1915	PRESSURE SENSOR PORT #2 IS INOPERATIVE
1916	PRESSURE SENSOR PORT #3 IS INOPERATIVE
Misc Errors Codes (1950-1991)	
1950	DCP #1 Resetting
1951	DCP #2 Resetting
1952	DCP #3 Resetting
1953	System has been reconfigured
1954	REMOTE AFOS QUEUE ERROR
1955	AFOS HW PORT DOWN
1956	AFOS PHONE PORT DOWN
1957	BOTH AFOS HW PORT AND PHONE PORT DOWN

Table 4-2. System Log Error Messages (Continued)

Number	System Log Error
1958	ALL AFOS COMMUNICATION ATTEMPTS FAILED
1959	AFOS COMMUNICATION ATTEMPT FAILURE
1960	PRIMARY OID COMMUNICATION FAILURE
1961	LOCAL OID #1 COMMUNICATION FAILURE
1962	LOCAL OID #2 COMMUNICATION FAILURE
1963	Commercial Power has been Restored
1964	ADAS-ASOS link established.
1965	ADAS-ASOS link down
1966	ADAS port is ADAS PRIMARY.
1967	ADAS port is ADAS SPARE.
1968	ADAS has disconnected from ASOS.
1969	Write error to ADAS. ADAS-ASOS link down.
1970	AFOS HARDWIRE PORT IS INOPERATIVE AND DIAL OUT PORT IS NOW IN USE
1971	ADAS HAS STOPPED POLLING ASOS.
1972	ADAS HAS STARTED POLLING ASOS.
1973	VOICE PORT IS INOPERATIVE
1974	UPS PORT IS INOPERATIVE
1981	RVR PORT IS INOPERATIVE
1982	RVR PORT OPEN ERROR
1983	No poll from AWIPS. AWIPS-ASOS link down.
1984	AWIPS-ASOS link established.
1985	TOO MANY TRIES ON DOWNLOAD TO DCP, DOWNLOAD ABORTED
1986	EMBEDDED PSD: RTA PORT DOWN
1987	EMBEDDED PSD: ABT PORT DOWN
1988	EMBEDDED PSD: ERROR DETECTED, PROCESSING ABORTED
1989	EMBEDDED PSD INOPERATIVE, USING AFOS PHONE PORT
1990	EMBEDDED PSD: REPLY MESSAGE NOT RECEIVED
1991	EMBEDDED PSD: REPLY MESSAGE INVALID
PSOS Errors Codes (2000-2019)	
2000	PSOS err: TASK TIMED OUT WAITING FOR RESOURCE
2001	PSOS err: UNIMPLEMENTED SYSTEM SERVICE
2002	PSOS err: ILLEGAL SYSTEM SERVICE FUNCTION NUM
2003	PSOS err: ILLEGAL NODE NUMBER
2004	PSOS err: OBJECT HAS BEEN DELETED
2005	PSOS err: ILLEGAL OBJECT ID
2006	PSOS err: INCORRECT OBJECT TYPE
2007	PSOS err: OBJECT TABLE FULL
2008	PSOS err: OBJECT NOT FOUND
2009	PSOS err: CANNOT CREATE - NO TCB'S
2010	PSOS err: CANNOT CREATE - NO STACK SPACE
2011	PSOS err: CANNOT CREATE - STACK TOO SMALL
2012	PSOS err: CANNOT CREATE - PRIORITY OUT OF RANGE
2013	PSOS err: CANNOT START - ALREADY ACTIVE
2014	PSOS err: CANNOT RESTART - NEVER STARTED
2015	PSOS err: CANNOT SUSPEND - ALREADY SUSPENDED
2016	PSOS err: CANNOT RESUME - NOT SUSPENDED
2017	PSOS err: CANNOT CHANGE PRIORITY - OUT OF RANGE
2018	PSOS err: ILLEGAL TASK REGISTER NUMBER
2019	PSOS err: CANNOT DELETE - FILES OPEN
Region Service Group Errors (2020-2030)	
2020	PSOS err: CANNOT CREATE - NOT ON LONG WORD OR MMU PAGE
2021	PSOS err: CANNOT CREATE - NOT POWER OF 2 OR LESS THAN 4
2022	PSOS err: CANNOT CREATE - LENGTH TOO LARGE
2023	PSOS err: CANNOT CREATE - REGION LENGTH TOO SMALL

Table 4-2. System Log Error Messages (Continued)

Number	System Log Error
2024	PSOS err: CANNOT DELETE - ONE OR MORE SEG IN USE
2025	PSOS err: CANNOT GETSEG - SIZE EQUAL ZERO
2026	PSOS err: CANNOT GETSEG - SIZE IS TOO BIG
2027	PSOS err: CANNOT GETSEG - NOT ENOUGH MEMORY AVAILABLE
2028	PSOS err: CANNOT RETSEG - SEGMENT DOES NOT BELONG TO REGION
2029	PSOS err: CANNOT RETSEG - INCORRECT STARTING ADDRESS
2030	PSOS err: CANNOT RETSEG - SEGMENT ALREADY FREE
Partition Service Group Errors (2031-2038)	
2031	PSOS err: CANNOT CREATE - NOT ON LONG WORD OR MMU PAGE
2032	PSOS err: CANNOT CREATE - NOT POWER OF 2 OR LESS THAN 4
2033	PSOS err: CANNOT CREATE - LENGTH TOO SMALL
2034	PSOS err: CANNOT DELETE - BUFFERS IN USE
2035	PSOS err: CANNOT GETBUF - NO FREE BUFFERS AVAILABLE
2036	PSOS err: CANNOT RETBUF - BUFFER DOES NOT BELONG TO PARTITION
2037	PSOS err: CANNOT RETBUF - INCORRECT STARTING ADDRESS
2038	PSOS err: CANNOT RETBUF - BUFFER ALREADY FREE
Queuer: Service Group Errors (2039-2045)	
2039	PSOS err: CANNOT CREATE - NO MORE QCB
2040	PSOS err: CANNOT CREATE OR SEND - NO MESSAGE BUFFERS
2041	PSOS err: CANNOT SEND - MESSAGE QUEUE FULL
2042	PSOS err: CANNOT RECEIVE - QUEUE DELETED
2043	PSOS err: CANNOT RECEIVE - NO PENDING MESSAGES
2044	PSOS err: INFORMATIVE - TASKS WAITING WHEN QUEUE DELETED
2045	PSOS err: INFORMATIVE - MESSAGES PENDING WHEN DELETED
Event Service Group Errors (2046)	
2046	PSOS err: NOT ALL WANTED EVENTS WERE PENDING
Asynch Signal Service Group Errors (2047-2048)	
2047	PSOS err: CANNOT RETURN - NOT IN ASR
2048	PSOS err: CANNOT SEND - TASK HAS NO VALID ASR
Semaphore Service Group Errors (2049-2052)	
2049	PSOS err: CANNOT CREATE - NO MORE SCB
2050	PSOS err: CANNOT ACQUIRE - SEMAPHORE NOT AVAILABLE
2051	PSOS err: CANNOT ACQUIRE - SEMAPHORE DELETED WHILE WAIT
2052	PSOS err: INFORMATIVE - TASKS WAITING WHEN DELETED
Time Service Group Errors (2053-2061)	
2053	PSOS err: TIME OF DAY NOT SET
2054	PSOS err: DATE INPUT OUT OF RANGE
2055	PSOS err: TIME INPUT OUT OF RANGE
2056	PSOS err: TICKS INPUT OUT OF RANGE
2057	PSOS err: NO TIMERS LEFT
2058	PSOS err: INVALID TIMER ID SPECIFIED
2059	PSOS err: CANNOT CANCEL - TIMER NOT SET
2060	PSOS err: TIMING REQUEST TOO LATE - TIME PAST
2061	PSOS err: INFORMATIVE - WAKEUP DUE TO TIME RESET
Multiprocessor Support Service Group Errors (2062-2064)	
2062	PSOS err: SYSTEM SERVICE CALL NOT SUPPORTED AS RPC
2063	PSOS err: CANNOT WAIT ON REMOTE OBJECT - NO AGENTS
2064	PSOS err: AGENT BLOCKED, THIS IS NOT AN ERROR
MMU Support Group Errors (2065-2092)	
2065	PSOS err: PADDR NOT PAGE-ALIGNED
2066	PSOS err: LADDR NOT ON SECTION BOUNDRY
2067	PSOS err: LOGICAL ADDRESS IS NOT MAPPED
2068	PSOS err: CANNOT AFFECT SUPERVISOR MAP
2069	PSOS err: COPY TOO LONG - PAST SECTION END

Table 4-2. System Log Error Messages (Continued)

Number	System Log Error
2070	PSOS err: SECTION ALREADY MAPPED
2071	PSOS err: NO SECTION AVAILABLE
2072	PSOS err: ZERO MEMORY TO BE MAPPED
2073	PSOS err: MAP REQUEST LENGTH GREATER THAN SECTION
2074	PSOS err: ILLEGAL MODE SWITCH
2075	PSOS err: REGION 0 MISALIGNED (USUALLY 4; 16 FOR MMU)
2076	PSOS err: REGION 0 OVERFLOW - SYS DATA AREA
2077	PSOS err: REGION 0 OVERFLOW - OBJ TABLE
2078	PSOS err: REGION 0 OVERFLOW - DEV DATA AREA
2079	PSOS err: REGION 0 OVERFLOW - TASK STRUCT
2080	PSOS err: REGION 0 OVERFLOW - QUEUE STRUCT
2081	PSOS err: REGION 0 OVERFLOW - SEMAPHORE STRUCT
2082	PSOS err: REGION 0 OVERFLOW - TIMER STRUCT
2083	PSOS err: REGION 0 OVERFLOW - PARTITION STRUCT
2084	PSOS err: REGION 0 OVERFLOW - RPC STRUCT
2085	PSOS err: REGION 0 OVERFLOW - REGION STRUCT
2086	PSOS err: REGION 0 OVERFLOW - MMU STRUCTURES
2087	PSOS err: CANNOT CREATE ROOT
2088	PSOS err: PSOS NOT MULTIPROCESSOR VERSION
2089	PSOS err: CHECKSUM ERROR
2090	PSOS err: WRONG PROCESSOR TYPE
2091	PSOS err: MMU ALREADY ENABLED W BAD SETTING
2092	PSOS err: REGION 0 UNIT SIZE MUST MATCH MMU
Error Codes (2093-2096)	
2093	PSOS err: ILLEGAL PACKET TYPE
2094	PSOS err: MULTIPROCESSOR CONFIG MISMATCH
2095	PSOS err: GLOBAL OBJECT RECVD CANNOT BE ENTERED IN NODE
2096	PSOS err: COMMON MEM PARTITION LOCK HUNG
ACU Executive Error Codes (2150-2162)	
2150	Primary CPU Failed
2151	Queue Creation Error
2152	Semaphore Creation Error
2153	Task Creation Error
2154	Task Starting Error
2155	Task Deletion Error
2156	Timer Stack Semaphore Error
2157	Timer Queue Full Error
2158	Timer Stack Delete Error
2159	Timer Queue Resume Error
2160	Timer Wake After Error
2161	Sync Exec is in Endless Loop
2162	Sync Exec Resume Error
Comm I/F Error Codes (2200-2235)	
2200	Remote user tried the access code too many times
2201	A Remote OID Port has gone down
2202	The printer port has gone down
2203	An error occurred on one of the DCP queues
2204	An OID task did not start or started with an error
2205	ACU Radio/Line Driver A Comms Failed
2206	ACU Radio/Line Driver B Comms Failed
2207	An error occurred sending an event via PSOS
2208	The quality of the DCP communications line is bad
2209	Problem with Remote DCP queue, queue is flushed
2210	The Primary TCCC Port is Down

Table 4-2. System Log Error Messages (Continued)

Number	System Log Error
2211	The Spare TCCC Port is Down
2212	ACU/DCP Comms Failed. Check DCP #1 (See Maintenance Manual)
2213	ACU/DCP Comms Failed. Check DCP #2 (See Maintenance Manual)
2214	ACU/DCP Comms Failed. Check DCP #3 (See Maintenance Manual)
2215	DCP 1 is not responding to requests from Radio/Line Driver B
2216	DCP 2 is not responding to requests from Radio/Line Driver B
2217	DCP 3 is not responding to requests from Radio/Line Driver B
2218	Problem with Local DCP queue, queue is flushed
2219	DCP 1 is responding to syncs from Radio/Line Driver A
2220	DCP 2 is responding to syncs from Radio/Line Driver A
2221	DCP 3 is responding to syncs from Radio/Line Driver A
2222	DCP 1 is responding to syncs from Radio/Line Driver B
2223	DCP 2 is responding to syncs from Radio/Line Driver B
2224	DCP 3 is responding to syncs from Radio/Line Driver B
2225	Radio/Line Driver A has reestablished DCP communications
2226	Radio/Line Driver B has reestablished DCP communications
2227	DCP 1 Has Requested Download
2228	DCP 2 Has Requested Download
2229	DCP 3 Has Requested Download
2230	DCP 1 Has Reset to Boot Proms
2231	DCP 2 Has Reset to Boot Proms
2232	DCP 3 Has Reset to Boot Proms
2233	DEBUG: Comms Failure
2234	Radio Communications are in a hard failure state
2235	Radio/Line Driver Communications are failing > 20% of the time
ACE Comms Error Codes (2236-2238)	
2236	No poll from ACE. ACE-ASOS link down.
2237	ACE Communications have a bad packet format
2238	ACE-ASOS link established.
GTA Radio Messages (2275-2280)	
2275	GTA Radio Voltages Outside Thresholds
2276	GTA Radio Power Level Outside Thresholds
2277	GTA Radio Requested Power Greater Than Maximum Power setting, Setting Power to 0
2278	GTA Radio Data Communications Failure
2279	GTA Radio Forward Voltage Failure
2280	GTA Radio Reflective Voltage Failure
ACU FRU's Passing Error Codes (2300-2338)	
2300	ACU VME slot 1 passes (Bus Arbitrator)
2301	ACU VME slot 2 passes (CPU A)
2302	ACU VME slot 3 passes (CPU B)
2303	ACU VME slot 4 passes (Memory #1)
2304	ACU VME slot 5 passes (Memory #2)
2305	ACU VME slot 6 passes (Memory #3)
2306	ACU VME slot 7 passes (Intel I/O #1)
2307	ACU VME slot 8 passes (Intel I/O #2)
2308	ACU VME slot 9 passes (I/O #1)
2309	ACU VME slot 10 passes (I/O #2)
2310	ACU VME slot 11 passes (I/O #3)
2311	ACU VME slot 12 passes (Spare)
2312	ACU VME slot 13 passes (A/D)
2313	ACU VME slot 14 passes (Graphics)
2314	ACU VME slot 15 passes (Spare)
2315	ACU VME slot 16 passes (Voice Processor board #1)
2316	ACU VME slot 17 passes (Voice Processor board #2)

Table 4-2. System Log Error Messages (Continued)

Number	System Log Error
2317	ACU VME slot 18 passes (Spare)
2318	212 Modem #1 passes
2319	212 Modem #2 passes
2320	212 Modem #3 passes
2321	212 Modem #4 passes
2322	212 Modem #5 passes
2323	212 Modem #6 passes
2324	212 Modem #7 passes
2325	212 Modem #8 passes
2326	201 Modem #1 passes
2327	201 Modem #2 passes
2328	ACU Radio/ Line Drivers passes
2329	ACU UPS passes
2330	ACU ALL VME Boards passes
2331	ACU ALL Modems passes
2332	ACU +5 volt Power Supply A passes
2333	ACU +5 volt Power Supply B passes
2334	ACU -12 volt Power Supply A passes
2335	ACU -12 volt Power Supply B passes
2336	ACU +12 volt Power Supply A passes
2337	ACU +12 volt Power Supply B passes
2338	ACU Batteries passes
DCP FRU's Passing Error Codes (2350-2436)	
2350	DCP #1 VME slot 1 passes (CPU A)
2351	DCP #1 VME slot 2 passes (CPU B)
2352	DCP #1 VME slot 3 passes (Memory)
2353	DCP #1 VME slot 5 passes (I/O #1)
2354	DCP #1 VME slot 6 passes (I/O #2)
2355	DCP #1 VME slot 7 passes (I/O #3)
2356	DCP #1 VME slot 8 passes (I/O #4)
2357	DCP #1 VME slot 9 passes (I/O #5)
2358	DCP #1 VME slot 11 passes (A/D #1)
2359	DCP #1 VME slot 12 passes (A/D #2)
2360	DCP #1 Radio/ Line Drivers passes
2361	DCP #1 Power Parameters UPS #1 passes
2362	DCP #1 Power Parameters UPS #2 passes
2363	DCP #1 Power Control passes
2364	DCP #1 ALL VME cards passes
2365	DCP #1 +5 Volts Supply A passes
2366	DCP #1 +5 Volts Supply B passes
2367	DCP #1 +12/-12 Volts Supply A passes
2368	DCP #1 +12/-12 Volts Supply B passes
2369	DCP #1 UPS #1 Batteries passes
2370	DCP #1 UPS #2 Batteries passes
2383	DCP #2 VME slot 1 passes (CPU A)
2384	DCP #2 VME slot 2 passes (CPU B)
2385	DCP #2 VME slot 3 passes (Memory)
2386	DCP #2 VME slot 5 passes (I/O #1)
2387	DCP #2 VME slot 6 passes (I/O #2)
2388	DCP #2 VME slot 7 passes (I/O #3)
2389	DCP #2 VME slot 8 passes (I/O #4)
2390	DCP #2 VME slot 9 passes (I/O #5)
2391	DCP #2 VME slot 11 passes (A/D #1)
2392	DCP #2 VME slot 12 passes (A/D #2)

Table 4-2. System Log Error Messages (Continued)

Number	System Log Error
2393	DCP #2 Radio/ Line Drivers passes
2394	DCP #2 Power Parameters UPS #1 passes
2395	DCP #2 Power Parameters UPS #2 passes
2396	DCP #2 Power Control passes
2397	DCP #2 ALL VME cards passes
2398	DCP #2 +5 Volts Supply A passes
2499	DCP #2 +5 Volts Supply B passes
2400	DCP #2 +12/-12 Volts Supply A passes
2401	DCP #2 +12/-12 Volts Supply B passes
2402	DCP #2 UPS #1 Batteries passes
2403	DCP #2 UPS #2 Batteries passes
2416	DCP #3 VME slot 1 passes (CPU A)
2417	DCP #3 VME slot 2 passes (CPU B)
2418	DCP #3 VME slot 3 passes (Memory)
2419	DCP #3 VME slot 5 passes (I/O #1)
2420	DCP #3 VME slot 6 passes (I/O #2)
2421	DCP #3 VME slot 7 passes (I/O #3)
2422	DCP #3 VME slot 8 passes (I/O #4)
2423	DCP #3 VME slot 9 passes (I/O #5)
2424	DCP #3 VME slot 11 passes (A/D #1)
2425	DCP #3 VME slot 12 passes (A/D #2)
2426	DCP #3 Radio/ Line Drivers passes
2427	DCP #3 Power Parameters UPS #1 passes
2428	DCP #3 Power Parameters UPS #2 passes
2429	DCP #3 Power Control passes
2430	DCP #3 ALL VME cards passes
2431	DCP #3 +5 Volts Supply A passes
2432	DCP #3 +5 Volts Supply B passes
2433	DCP #3 +12/-12 Volts Supply A passes
2434	DCP #3 +12/-12 Volts Supply B passes
2435	DCP #3 UPS #1 Batteries passes
2436	DCP #3 UPS #2 Batteries passes
Power Control Page Error Codes (2450-2468)	
2450	Pressure Sensor #1 passes
2451	Pressure Sensor #2 passes
2452	Pressure Sensor #3 passes
2453	Temperature/Dewpoint Sensor passes
2454	HO83 Sensor passes
2455	Wind Sensor passes
2456	Present Weather Sensor #1 passes
2457	Thunderstorm Sensor passes
2458	Visibility #1 Sensor passes
2459	Visibility #2 Sensor passes
2460	Visibility #3 Sensor passes
2461	Snow Depth Sensor passes
2462	Freezing Rain Sensor passes
2463	Frozen Precipitation Water Sensor passes
2464	Sunshine Switch Sensor passes
2465	Ceilometer #1 passes
2466	Ceilometer #2 passes
2467	Ceilometer #3 passes
2468	Tipping Bucket passes
Power Control Page Error Codes (2650-2668)	
2650	Replace Pressure Sensor #1

Table 4-2. System Log Error Messages (Continued)

Number	System Log Error
2651	Replace Pressure Sensor #2
2652	Replace Pressure Sensor #3
2653	Replace Temperature/Dewpoint Sensor
2654	Replace HO83 Sensor
2655	Replace Wind Sensor
2656	Replace Present Weather Sensor #1
2657	Replace Thunderstorm Sensor
2658	Replace Visibility #1 Sensor
2659	Replace Visibility #2 Sensor
2660	Replace Visibility #3 Sensor
2661	Replace Snow Depth Sensor
2662	Replace Freezing Rain Sensor
2663	Replace Frozen Precipitation Water Sensor
2664	Replace Sunshine Switch Sensor
2665	Replace Ceilometer #1
2666	Replace Ceilometer #2
2667	Replace Ceilometer #3
2668	Replace Tipping Bucket
Sensor Processing Error Codes (2700-2799)	
2700	VISIBILITY MISSING SENSOR #1: 7 TO 2 MILE DROP IN 1 MINUTE WITH WIND SPEED LESS THAN 7 KNOTS
2701	VISIBILITY MISSING SENSOR #2: 7 TO 2 MILE DROP IN 1 MINUTE WITH WIND SPEED LESS THAN 7 KNOTS
2702	VISIBILITY MISSING SENSOR #3: 7 TO 2 MILE DROP IN 1 MINUTE WITH WIND SPEED LESS THAN 7 KNOTS
2703	VISIBILITY SENSOR #1 NOT OPERATIONAL: TOO MANY MISSING VALUES - 10 MIN AVERAGE IS MARKED MISSING
2704	VISIBILITY SENSOR #2 NOT OPERATIONAL: TOO MANY MISSING VALUES - 10 MIN AVERAGE IS MARKED MISSING
2705	VISIBILITY SENSOR #3 NOT OPERATIONAL: TOO MANY MISSING VALUES - 10 MIN AVERAGE IS MARKED MISSING
2706	VISIBILITY SENSOR #1 IS FULLY OPERATIONAL
2707	VISIBILITY SENSOR #2 IS FULLY OPERATIONAL
2708	VISIBILITY SENSOR #3 IS FULLY OPERATIONAL
2709	VISIBILITY MISSING SENSOR #1: FAILED DATA QUALITY CHECK - EXTINCTION COEFFICIENT OUT OF RANGE OF 0.062/KM to 65.6/KM
2710	VISIBILITY MISSING SENSOR #2: FAILED DATA QUALITY CHECK - EXTINCTION COEFFICIENT OUT OF RANGE OF 0.062/KM to 65.6/KM
2711	VISIBILITY MISSING SENSOR #3: FAILED DATA QUALITY CHECK - EXTINCTION COEFFICIENT OUT OF RANGE OF 0.062/KM to 65.6/KM
2712	PHOTOMETER INOPERATIVE SENSOR #1: FAILED DATA QUALITY CHECK - DAY SENSOR READING AT MIDNIGHT - READING RESET TO DAY FOR CALCULATIONS
2713	PHOTOMETER INOPERATIVE SENSOR #2: FAILED DATA QUALITY CHECK - DAY SENSOR READING AT MIDNIGHT - READING RESET TO DAY FOR CALCULATIONS
2714	PHOTOMETER INOPERATIVE SENSOR #3: FAILED DATA QUALITY CHECK - DAY SENSOR READING AT MIDNIGHT - READING RESET TO DAY FOR CALCULATIONS
2715	PHOTOMETER INOPERATIVE SENSOR #1: FAILED DATA QUALITY CHECK - NIGHT SENSOR READING AT NOON - READING RESET TO DAY FOR CALCULATIONS
2716	PHOTOMETER INOPERATIVE SENSOR #2: FAILED DATA QUALITY CHECK - NIGHT SENSOR READING AT NOON - READING RESET TO DAY FOR CALCULATIONS
2717	PHOTOMETER INOPERATIVE SENSOR #3: FAILED DATA QUALITY CHECK - NIGHT SENSOR READING AT NOON - READING RESET TO DAY FOR CALCULATIONS
2718	PHOTOMETER INOPERATIVE SENSOR #1: READING IS NOT DAY OR NIGHT - READINGS ARE RESET TO DAY FOR CALCULATIONS
2719	PHOTOMETER INOPERATIVE SENSOR #2: READING IS NOT DAY OR NIGHT - READINGS ARE RESET TO DAY FOR CALCULATIONS
2720	PHOTOMETER INOPERATIVE SENSOR #3: READING IS NOT DAY OR NIGHT - READINGS ARE RESET TO DAY FOR CALCULATIONS
2721	VOICE PROCESSOR ERROR

Table 4-2. System Log Error Messages (Continued)

Number	System Log Error
2722	PRESSURE SENSOR #1: MISSING DATA
2723	PRESSURE SENSOR #2: MISSING DATA
2724	PRESSURE SENSOR #3: MISSING DATA
2725	AMBIENT TEMPERATURE READING FROM SENSOR IS MISSING
2726	DEWPOINT TEMPERATURE READING FROM SENSOR IS MISSING
2727	WIND SENSOR IS INOPERATIONAL
2728	WIND DIRECTION MISSING
2729	PRESSURE SENSOR #1: DIFFERENCE ERROR
2730	PRESSURE SENSOR #2: DIFFERENCE ERROR
2731	PRESSURE SENSOR #3: DIFFERENCE ERROR
2732	PRESENT WEATHER INOPERATIVE
2733	PRESENT WEATHER SENSOR IS OPERATIONAL
2734	FREEZING RAIN INOPERATIVE
2735	FREEZING RAIN SENSOR IS OPERATIONAL
2736	CEILOMETER #1 IS INOPERATIVE
2737	CEILOMETER #2 IS INOPERATIVE
2738	CEILOMETER #3 IS INOPERATIVE
2739	SUNSHINE SENSOR READING MISSING
2740	SNOW DEPTH SENSOR READING MISSING
2741	CUMULATIVE PRECIPITATION SENSOR READING MISSING
2744	TEMPERATURE SENSOR IS OPERATIONAL
2745	TEMPERATURE SENSOR IS INOPERATIONAL
2746	AMBIENT TEMPERATURE READINGS NOW VALID
2747	DEWPOINT TEMPERATURE READINGS NOW VALID
2748	DEWPOINT TEMPERATURE IS INOPERATIONAL
2749	CUMULATIVE PRECIPITATION IS OPERATIONAL
2750	SUN SENSOR IS OPERATIVE
2751	SNOW DEPTH SENSOR IS OPERATIVE
2752	CEILOMETER #1 IS OPERATIVE
2753	CEILOMETER #2 IS OPERATIVE
2754	CEILOMETER #3 IS OPERATIVE
2755	PHOTOMETER #1 IS OPERATIONAL
2756	PHOTOMETER #2 IS OPERATIONAL
2757	PHOTOMETER #3 IS OPERATIONAL
2758	AMBIENT TEMPERATURE MARKED MISSING: FAILED DATA QUALITY CHECK - NOT BETWEEN MINUS 80 TO 130 DEGREES F
2759	DEWPOINT TEMPERATURE MARKED MISSING: FAILED DATA QUALITY CHECK - NOT BETWEEN MINUS 80 to 86 DEGREES F
2760	AMBIENT TEMPERATURE MARKED MISSING: FAILED DATA QUALITY CHECK - FAILED TO VARY MORE THAN 0.1 DEGREES F OVER THE PAST 120 MINUTES
2761	DEWPOINT TEMPERATURE MARKED MISSING: FAILED DATA QUALITY CHECK - FAILED TO VARY MORE THAN 0.1 DEGREES F OVER THE PAST 120 MINUTES
2762	AMBIENT TEMPERATURE MARKED MISSING: FAILED DATA QUALITY CHECK - EXCEEDED RATE OF CHANGE OF 10 DEGREES F OVER THE PAST MINUTE
2763	DEWPOINT TEMPERATURE MARKED MISSING: FAILED DATA QUALITY CHECK - EXCEEDED RATE OF CHANGE OF 10 DEGREES F OVER THE PAST MINUTE
2764	VISIBILITY SENSOR #1: 10 MIN AVERAGE NOW VALID - LESS THAN 3 MISSING VALUES
2765	VISIBILITY SENSOR #2: 10 MIN AVERAGE NOW VALID - LESS THAN 3 MISSING VALUES
2766	VISIBILITY SENSOR #3: 10 MIN AVERAGE NOW VALID - LESS THAN 3 MISSING VALUES
2767	VISIBILITY SENSOR #1: 1-MINUTE RATE OF CHANGE NOW VALID
2768	VISIBILITY SENSOR #2: 1-MINUTE RATE OF CHANGE NOW VALID
2769	VISIBILITY SENSOR #3: 1-MINUTE RATE OF CHANGE NOW VALID
2770	VISIBILITY SENSOR #1: EXTINCTION COEFFICIENT NOW IN VALID RANGE
2771	VISIBILITY SENSOR #2: EXTINCTION COEFFICIENT NOW IN VALID RANGE
2772	VISIBILITY SENSOR #3: EXTINCTION COEFFICIENT NOW IN VALID RANGE

Table 4-2. System Log Error Messages (Continued)

Number	System Log Error
2773	AMBIENT TEMPERATURE READING FROM SENSOR AVAILABLE
2774	DEWPOINT TEMPERATURE READING FROM SENSOR AVAILABLE
2775	WIND SPEED MARKED MISSING: FAILED DATA QUALITY CHECK - FAILED TO VARY MORE THAT 1 KNOT OVER 2 MIN.
2776	WIND DIRECTION MARKED MISSING: FAILED DATA QUALITY CHECK - FAILED TO VARY MORE THAN 1 DEG. OVER 2 MIN.
2777	WIND SPEED MARKED MISSING: FAILED DATA QUALITY CHECK - EXCEEDED CHANGE RATE OF 10 KNOTS
2778	WIND DIRECTION MARKED MISSING: FAILED DATA QUALITY CHECK - EXCEEDED CHANGE RATE OF 130 DEGREES
2779	WIND SPEED MARKED MISSING: SENSOR SPEED DATA MISSING
2780	WIND DIRECTION MARKED MISSING: SENSOR DIRECTION DATA MISSING
2781	WIND SPEED MARKED MISSING: FAILED DATA QUALITY CHECK - EXCEEDED RANGE OF 0 TO 125 KNOTS
2782	WIND DIRECTION MARKED MISSING: FAILED DATA QUALITY CHECK - EXCEEDED RANGE OF 0 TO 359 DEGREES
2783	WIND SENSOR OPERATIONAL
2784	WIND SENSOR DATA AVAILABLE
2785	WIND SPEED AND DIRECTION MARKED MISSING: WIND SENSOR DATA NOT AVAILABLE
2786	WIND SPEED DATA NO LONGER MISSING
2787	WIND DIRECTION DATA NO LONGER MISSING
2788	WIND DIRECTION MARKED MISSING: INSUFFICIENT NUMBER OF VALID WIND DIRECTIONS RECEIVED
2789	WIND SPEED MARKED MISSING: INSUFFICIENT NUMBER OF VALID WIND SPEEDS RECEIVED
2790	PHOTOMETER INOPERATIVE SENSOR #1: READING IS MISSING - READINGS ARE RESET TO DAY FOR CALCULATIONS
2791	PHOTOMETER INOPERATIVE SENSOR #2: READING IS MISSING - READINGS ARE RESET TO DAY FOR CALCULATIONS
2792	PHOTOMETER INOPERATIVE SENSOR #3: READING IS MISSING - READINGS ARE RESET TO DAY FOR CALCULATIONS
2793	VISIBILITY SENSOR #1 NOT OPERATIONAL:VISIBILITY DROPPED FROM 7 MILES TO LESS THAN 2
2794	VISIBILITY SENSOR #2 NOT OPERATIONAL:VISIBILITY DROPPED FROM 7 MILES TO LESS THAN 2
2795	VISIBILITY SENSOR #3 NOT OPERATIONAL:VISIBILITY DROPPED FROM 7 MILES TO LESS THAN 2
2796	CUMULATIVE PRECIPITATION SENSOR READING INVALID
2797	DEWPOINT TEMPERATURE IS OPERATIONAL
2798	CUMULATIVE PRECIPITATION IS INOPERATIVE
2799	CUMULATIVE PRECIPITATION Data Quality Error
MISCELLANEOUS (9999)	
9999	NO VALID CALL RECORDS RETRIEVED FOR THIS DATE
9999	CALLS ON PHONE LINES: LINE #x CALLS
9999	AOMC CALLS TODAY: x, AOMC SUCCESSFUL CALLS TODAY: x
9999	BusErr:PC x DF x SR x A0-7 x x x x x x x x x BusErr:D0-7 x x x x x x x Stack Unwind: @ x x x
9999	TASK IN INFINITE LOOP
9999	TURNED REPORT PROCESSING FOR PRESSURE SENSORS ON
9999	TURNED REPORT PROCESSING FOR PRESSURE SENSORS OFF
9999	TURNED REPORT PROCESSING FOR VISIBILITY SENSORS ON
9999	TURNED REPORT PROCESSING FOR VISIBILITY SENSORS OFF
9999	TURNED REPORT PROCESSING FOR CEILOMETERS ON
9999	TURNED REPORT PROCESSING FOR CEILOMETERS OFF
9999	TURNED REPORT PROCESSING FOR sensor name ON
9999	TURNED REPORT PROCESSING FOR sensor name OFF
9999	xxx LOGGED ON AS SYSTEM MANAGER FROM OID#x
9999	xxx LOGGED OFF AS SYSTEM MANAGER FROM OID#x
9999	xxx LOGGED ON AS TECHNICIAN FROM OID#x
9999	xxx LOGGED OFF AS TECHNICIAN FROM OID#x

Table 4-2. System Log Error Messages (Continued)

Number	System Log Error
9999	Task ID # x, Runtime Error: error @ x

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CHAPTER 5
DIAGNOSTIC FEATURES

ASOS maintenance diagnostics perform the critical task of determining the validity of sensor data and the operational status of ASOS equipment. Additional functions have been included to record maintenance actions. Over the ASOS life cycle, the diagnostic capability proves to be a cost-effective aid in maintenance support. Diagnostic tests are executed in response to technician or system manager input under the MAINT function. Once invoked, diagnostics15-1 operate autonomously without operator intervention, reporting failures to the OID and the printer. Diagnostics also allow the maintenance technician to selectively diagnose ASOS equipment as required. The maintenance screen displays reflect CPU, SIO, UPS, VIDEO CARD, and A TO D values specified on the REVUE-SITE-CONFG-HDWE screen. A technical description of each diagnostic feature is contained in the ASOS Site Technical Manual.

5.1 **CONTINUOUS SELF-TEST DIAGNOSTICS**.

The ASOS self-test program runs continuously during normal system operation. The program monitors the operational status of all ASOS hardware by reading and writing diagnostic data between the CPU and the system hardware components. The self-test is repeated approximately every seven minutes with the failed or degraded results being entered into the system log.

The modems are treated in a special manner by the diagnostic program and are not specifically tested during normal testing of the system. Running diagnostic tests on the modem during normal system operation may result in the loss of information.

5.2 **ON-DEMAND DIAGNOSTICS.**

If, during normal system data processing, a sensor failure is detected by the sensor processing program, the sensor processing program issues a command to the diagnostic program to run its diagnostic on the malfunctioning sensor. This type of testing is performed on demand and forces the diagnostic program into an immediate test of the sensor. If an FRU fails, the corresponding FRU failure message is entered into the SYSLOG. During system maintenance, the technician can select any of the specific tests via the maintenance display pages and run them independently to verify system operation. The technician may also run detailed diagnostic tests on certain sensors, specifically 1088 Temperature/Dewpoint and Wind Speed/Direction. These detailed diagnostic tests are internal to certain sensors and are considered extensions of the system diagnostic capability. During normal diagnostic testing, these detailed diagnostics are not executed. The modems are not tested during the continuous self-test diagnostic function and must be tested by the technician by performing on-demand diagnostics. Execution of these detailed diagnostics is performed from the specific maintenance page. Commands are issued to the sensor or FRU via the OID keyboard or maintenance terminal and the responses are displayed on the maintenance pages.

The self-test/diagnostic program utilizes a series of easily accessible maintenance pages to display test results and enables the technician to run specific portions of the diagnostic program. The pages are arranged in a hierarchical manner which starts with the key element of the system being displayed on the first maintenance page. Access to the units under each element of the system is accomplished by placing the cursor on the desired element (i.e. ACU, DCP, ACU/DCP COMMS, TREND, ADAS SUMMARY, PROC, and pressing the SEL key. This action results in the elements within the desired area being displayed on the OID. The process of moving the cursor is by pressing the NEXT key. This is repeated until the specific unit (i.e. sensor, card or power supply page) is displayed on the OID. Pressing the SEL Key will put the operator at the element level. Running the

diagnostic on that element is accomplished by pressing the TEST key. Upon completion of the test, the status fields on all of the higher level pages are set to reflect the results of the on-demand test performed. At the next 15-second update the status fields will reflect the most recent information.

5.3   **TECHNICIAN INTERFACE.**

The Technician Interface software provides all the ASOS diagnostic maintenance functions, including built-in tests, and technician interaction with the system. Continuous self-test functions are embedded in many areas of the operational software to monitor the real-time operation of hardware components and software processing.

The continuous self-test software design provides the ability to test, detect, analyze, and annunciate conditions affecting, or on the verge of affecting, normal system operations or configuration. Sensors with built-in diagnostic capabilities report their status with each sensor data transfer from the DCP to the ACU. Data quality checks external and internal to the weather reporting algorithms evaluate the sensor data transfers for logical and meteorological consistency. Additional self-test functions are performed to detect out-of-tolerance conditions such as power supply voltages and battery voltages.

Diagnostics progress downward to the system field replaceable units (FRUs). This progression enables the software to logically determine a failed FRU or data path by building upon the use of system resources that have already been checked. Communication interfaces are tested using the same systematic approach. Also, built-in test (BIT) capability provides the ability to perform communication interface checks, and direct sensor dialogue.

Equipment analysis and troubleshooting information gathered during continuous self-test and system diagnostic tests furnish the technician with data needed to perform maintenance or repair functions for the system. Entry into the Technician Interface is accomplished by logging into the ASOS at any OID or remote terminal using a specific password and, if necessary, remote access code. These entries will identify the user as a technician and allow him to access the MAINT function or system commands available to troubleshoot the ASOS. The system manager will have the same maintenance access, but will also be allowed to change all user access codes and passwords. Each access to the system is recorded in the system maintenance log. It should be noted that ASOS operation from both the OID and remote terminals is identical with the exception that the remote terminal does not support the print function menu key and associated help screen entry.

Technician and system manager maintenance functions and commands are accessible from the MAINT menu level. A menu driven software package using graphics and text to display available options and special maintenance function keys is provided. All commands, edit functions, and function key templates requiring development for the diagnostics displays are incorporated without interrupting the continuity of the user interfaces. The main menu is a geographical representation of the ASOS, divided into five main sections: ACU, DCP, ACU/DCP COMMS, TREND, ADAS SUMMARY, and PROC.

Graphics are used to represent choices to the technician. The color capabilities of the OID is used to highlight areas and identify functional areas. This will not affect the use of these screens at remote monochrome terminals. By selecting one section, the technician enters another screen, offering a list of possible functions appropriate for that area. This technique of page and menu driven selections is continued in a tree structure within each of the main sections. A hierarchy of the maintenance screens is provided in figure 5-1.
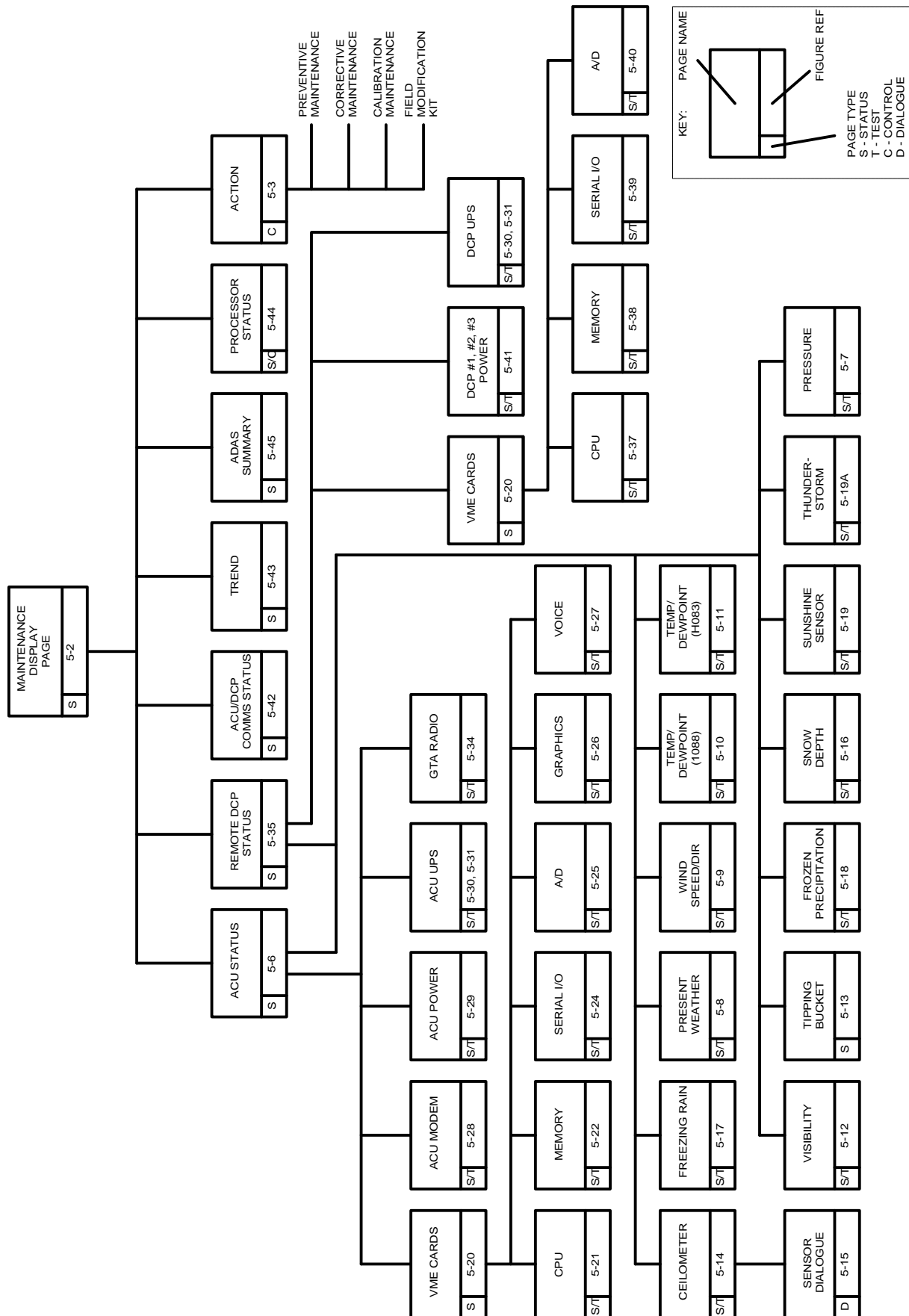
Figure 5-1. Hierarchy of Maintenance Screens

5.3.1 **Procedures Common to All Maintenance Functions**.

The following subparagraphs provide information on software procedures and commands common to all maintenance functions. These procedure should be referrred to whenever using the maintenance screens in paragraphs 5.3.2 through 5.3.41.

5.3.1.1 **Initialization.** - The one-minute screen must be displayed to access the Maintenance Screen (figure 5-2) and is done before any maintenance activity can be performed. To return to the one-minute screen from any screen press the EXIT key.

5.3.1.2 **Execution Options**. - Detailed instructions for use of this maintenance function may be found in the ASOS Site Maintenance Manual including a list of warnings and precautions. The key commands/menu commands used for executing all functions are:

KEY COMMANDS

PRINT -   Causes the currently displayed page to be printed on the line printer.

CLEAR -   Clears all counters for PASS/FAIL fields on current page and all pages summarized by this page.

PREV -   Controls cursor movement between menu commands on the currently displayed page. It is used with the NEXT key command to select menu commands for execution.

SEL   -   Executes the menu command which is currently selected as indicated by the cursor position.

ACT   -   Provides Access to the maintenance action data recording screens. Refer to figure 5-3 for the Maintenance Action Screen and System Help Screen.

    PREVT -   Allows user to enter agency stock number and unit serial number for preventive maintenance. Refer to figure 5-4 for the Preventative Maintenance Data Screen.

    CORR -   Allows user to enter agency stock number and unit serial number for corrective maintenance. The Corrective Maintenance Screen is identical to figure 5-4 with the exception of the screen title.

    CAL   -   Allows the user to enter agency stock number and unit serial number for calibration maintenance. The Calibration Maintenance Screen is identical to figure 5-4 with the exception of the screen title.

    FMK   -   Allows user to enter field modification kit (FMK) number for FMK maintenance. Refer to figure 5-5 for the Field Modification Kit Maintenance Data Screen.

    ABORT -   Disregards all entries and returns the OID to the one-minute screen.

    EXIT -   Returns the user to the one-minute screen.

BACK -   Returns the user to the previous screen/keypad.

TEST -   Executes the entire Wind Speed/Direction Sensor Diagnostic Function

NEXT -   Controls cursor movement between menu commands on the currently displayed page. It is used

with the PREV key command to select menu commands for execution.

DIALG -   Allows the user to perform direct dialogue with the sensor.

RESET -   Executes the initialization command which is currently selected as indicated by the cursor position.

1.   An audio alarm (BEEP) is heard and an error message is displayed if the cursor is on an invalid field.

CHANG -   Causes the current page to enter Edit Mode. Edit Mode allows the user to enter numeric information. In preparation for input, the current page is modified as follows:

1.   The cursor is placed at the initial position on the screen for entering characters.

2.   The key command menu is modified to include one command only; ABORT.

ABORT - Exits the editor and clears the field.

3.   An audio alarm (BEEP) is heard and an error message is displayed if the cursor is on an invalid field.

MENU COMMANDS

ACU   -   Initiates the ACU Status Function. The ACU Status Function displays the status of each ACU local sensor and hardware area. It also provides menu commands to access sensor diagnostic functions, hardware status, and diagnostic functions.

If more detailed status information is desired or sensor or hardware diagnostics are desired, select one of the status functions (ACU, DCP #1, DCP #2, DCP #3, or ACU/DCP COMMS) from the displayed menu commands by using the PRE or NEXT keys to position the cursor at the menu command and then pressing the SEL key.

If trend/summary information is desired for the radio or line driver communication fail counts, select TREND from the displayed menu commands by using the PRE or NEXT keys to position the cursor at the menu command and then pressing the SEL key.

If summary information is desired for ADAS-ASOS communications fail counts, select ADAS SUMMARY from the displayed menu commands by using the PRE or NEXT keys to position the cursor at the menu command and then pressing the SEL key.

If reset of the ACU or DCP processors is desired, select the Processor Status Function (PROC) from the displayed menu commands by using the PRE or NEXT keys to position the cursor at the menu command and then pressing the SEL key

DCP #1, #2, and #3 PRIMARY CPU - Initiates the DCP CPU boards self-test. The status of the functional areas on the DCP CPU boards is displayed at the completion of the self-test. The functional tests performed include the DRAM, EPROM, BUS ERRORS, SERIAL PORT#1 - LOOPBACK and XMIT ERRORS, SERIAL PORT #2 - LOOPBACK and XMIT ERRORS.

```
  11:21:56 11/21/97 1621Z                                    ANYTOWN AIRPORT
     +))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))),
  *                                                                              *
  *                                                                              *
  *                                                                              *
  *                                                                              *
  * ACU  P          DCP #1  P          ACU/DCP COMMS  *        TREND     PROC    *
  *                 DCP #2  P                                  ADAS SUMMARY      *
  *                                                                              *
  *                 DCP #3  F                                                    *
  *                                                                              *
  *                                                                              *
  *                                                                              *
  *                                                                              *
  *                                                                              *
  *                                                            MAINTENANCE      *
   *                                                     +)))))0)))))0)))))1
  *                                                     *PRINT*CLEAR*PRE   *
   *                                                     /)))))3)))))3)))))1
  *                                                     *SEL  *ACT  *       *
   *                                                     /)))))3)))))3)))))1
  *                                                     *EXIT *      *NEXT *
     .)))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))2)))))2)))))2)))))-
```

```
  11:21:56 07/04/96 1621Z                                    ANYTOWN AIRPORT
     +))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))),
  *PRINT - PRINT THE CURRENT SCREEN ON THE ASOS PRINTER                          *
  *                                                                              *
  *CLEAR - CLEAR ALL COUNTERS FOR PASS/FAIL FIELDS ON THIS PAGE AND              *
  *ALL PAGES SUMMARIZED BY THIS PAGE                                             *
  *PREV  - MOVE THE CURSOR TO THE PREVIOUS FIELD                                 *
  *                                                                              *
  *SEL   - DISPLAYS THE PAGE SELECTED BY THE CURRENT CURSOR POSITION             *
  *                                                                              *
  *ACT   - ALLOWS THE OPERATOR TO PROCESS THE MAINTENANCE ACTIONS                *
  *                                                                              *
  *                                                                              *
  *                                                                              *
  *EXIT  - RETURN THE USER TO THE ONE-MINUTE SCREEN                              *
  *                                                                              *
  *                                                                              *
  *                                                                              *
  *NEXT  - MOVE THE CURSOR TO THE NEXT FIELD                                     *
  *                                                                              *
  *                                                                              *
  *                     PRESS HELP OR KEYPAD 0 TO EXIT HELP                      *
  *                                                                              *
     .)))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))-
```

Figure 5-2. Maintenance Page and System Help Screen

```
 11:21:56 07/04/96 1621Z                                              ANYTOWN AIRPORT
    +)))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))),
*                                                                                    *
*                                                                                    *
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*                                                                                    *
*                                                                                    *
*                                                                                    *
*                                                                                    *
*                                                                                    *
*                                                                                    *
*                                                                    ACTION          *
 *                                                                +)))))0)))))0)))))1
*                                                                *PRINT*PREVT*CORR  *
 *                                                               /)))))3)))))3)))))1
*                                                                *CAL  *FMK  *ABORT*
 *                                                               /)))))3)))))3)))))1
*                                                                *EXIT *BACK *START*
    .))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))2)))))2)))))2)))))-
```

```
 11:21:56 07/04/96 1621Z                                              ANYTOWN AIRPORT
    +)))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))),
*PRINT - PRINT THE CURRENT SCREEN ON THE ASOS PRINTER                                *
*                                                                                    *
*PREVT - ALLOWS THE OPERATOR TO ENTER THE PREVENTATIVE MAINTENANCE DATA              *
*                                                                                    *
*CORR  - ALLOWS THE OPERATOR TO ENTER THE CORRECTIVE MAINTENANCE DATA                *
*                                                                                    *
*CAL   - ALLOWS THE OPERATOR TO ENTER THE CALIBRATION MAINTENANCE DATA               *
*                                                                                    *
*FMK   - ALLOWS THE OPERATOR TO ENTER THE FIELD MODIFICATION KIT                     *
*MAINTENANCE DATA                                                                    *
*ABORT - DISREGARD ALL CHANGES MADE SINCE BEING ON THIS PAGE AND                     *
*RETURN THE USER TO THE ONE-MINUTE SCREEN                                            *
*EXIT  - RETURN THE USER TO THE ONE-MINUTE SCREEN                                    *
*                                                                                    *
*BACK  - RETURN THE USER TO THE PREVIOUS SCREEN / KEYPAD                             *
*                                                                                    *
*START - ENTERS A MESSAGE IN THE SYSLOG TO INDICATE START OF MAINTENANCE             *
*                                                                                    *
*                                                                                    *
*                        PRESS HELP OR KEYPAD 0 TO EXIT HELP                         *
*                                                                                    *
    .)))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))-
```

Figure 5-3. Maintenance Action Page and System Help Screen

```
  11:21:56 07/04/96 1621Z                                           ANYTOWN AIRPORT
    +)))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))),
  *                                                                                 *
  *                        PREVENTATIVE MAINTENANCE DATA                            *
  *                                                                                 *
  *                                                                                 *
  *     AGENCY STOCK NUMBER:     _____                               *
  *                                                                                 *
  *     UNIT SERIAL NUMBER:      _____                               *
  *                                                                                 *
  *     ALL ENTERED DATA CORRECT (Y/N)?: _                                          *
  *                                                                                 *
  *                                                                                 *
  *                                                                                 *
  *                                                                                 *
  *                                                                                 *
  *                                                                     ACTION      *
   *                                                              +)))))0)))))0)))))1
  *                                                              *PRINT*PREVT*CORR *
   *                                                              /)))))3)))))3)))))1
  *                                                              *CAL  *FMK  *ABORT*
   *                                                              /)))))3)))))3)))))1
  *                                                              *EXIT *BACK *START*
    .)))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))2)))))2)))))2)))))-
```

Figure 5-4. Preventative Maintenance Data Screen

```
  11:21:56 07/04/96 1621Z                                           ANYTOWN AIRPORT
    +)))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))),
  *                                                                                 *
  *                   FIELD MODIFICATION KIT MAINTENANCE DATA                       *
  *                                                                                 *
  *                                                                                 *
  *     FIELD MODIFICATION KIT NUMBER:   _____                               *
  *                                                                                 *
  *     ALL ENTERED DATA CORRECT (Y/N)?: _                                          *
  *                                                                                 *
  *                                                                                 *
  *                                                                                 *
  *                                                                                 *
  *                                                                                 *
  *                                                                     ACTION      *
   *                                                              +)))))0)))))0)))))1
  *                                                              *PRINT*PREVT*CORR *
   *                                                              /)))))3)))))3)))))1
  *                                                              *CAL  *FMK  *ABORT*
   *                                                              /)))))3)))))3)))))1
  *                                                              *EXIT *BACK *START*
    .)))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))2)))))2)))))2)))))-
```

Figure 5-5. Field Modification Kit Maintenance Data Screen

5.3.1.3   **System Inputs**. Sensor specific information is described with each sensor diagnostic function. System inputs used for Common Diagnostic Functions are:

DATA QUALITY -   The data quality field indicates whether or not the data being received from the sensor is valid (logically correct) when compared to the standard specified in the data quality monitoring algorithm. Three potential symbols appear in this field:, P (Pass) (data quality meets standard required by monitoring test algorithm), F (Fail) and the associated fail count (data quality does not meet standard required by monitoring test algorithm) or * (initial system check in progress or sensor is not installed at this site).

REPORT PROCESS -   The report process field indicates the present operating status of the sensor, Y (Yes) sensor is delivering data to the system, N (No) sensor is off-line and not delivering data to the system, or * (initial system check in progress). The report process field can be set by the Observer on the review sensor configuration page.

SENSOR RESPONSE -   The sensor response field indicates whether or not the sensor has responded to a data request from the sensor processing program or the self-test program. Four potential symbols appear in this field: P (Pass), F (Fail) and the associated fail count, T (Test) or * (initial sensor check in progress or sensor is not installed at this site). Pressure Sensor Response will remain '*' for approximately 3 minutes after initial configuration. This delay is performed by the software. It allows time for the sensor to execute internal self test.

PROBE STATUS -   The Probe Status field will contain a symbol indicating the status of the probe. The inputs to the probe status field are based on a response by the sensor. The response determines the output status. Four potential symbols appear in this field: P (Pass), F (Fail) and the associated fail count, T (Test) or * (initial system check in progress or sensor is not installed at this site).

HEATER STATUS -   The Heater Status field will contain a symbol indicating the status of the sensor de-icing heater. The inputs to the heater status field are based on a response by the sensor. The response determines the output status. Four potential symbols appear in this field: P (Pass), F (Fail) and the associated fail count, T (Test) or * (initial system check in progress or sensor is not installed at this site).

ELECTRONICS STATUS -   The Electronics Status field will contain a symbol indicating the status of the sensor electronics. The inputs to the electronics status field are based on a response by the sensor. The response determines the output status. Four potential symbols appear in this field: P (Pass), F (Fail) and the associated fail count, T (Test) or * (initial system check in progress or sensor is not installed at this site).

5.3.1.4   **Execution.** The commands/procedures common for executing all Maintenance Functions are:

   a.   At the one-minute screen, sign on the system as a System Manager or a Technician using the SIGN Function.

   b.   Select the Maintenance Function by pressing the MAINT key on the function key template. When selected, the Maintenance Function keypad and menu options are displayed showing the

overall status of the ACU, DCPs, ACU/DCP COMMS, and ACU peripherals.

c.   Select the Status/Sensor function from the displayed menu by using the PRE or NEXT keys to position the cursor at the menu command and then pressing the SEL key.

d.   If a hardcopy of the currently displayed status data is desired, press the PRINT key.

e.   If clearing of all pass/fail counters is desired, press the CLEAR key.

f.   If more detailed status information or diagnostics for the sensors is desired, select one of the sensors from the displayed menu by using the PRE or NEXT keys to position the cursor at the menu command and then pressing the SEL key.

g.   If more detailed hardware status information or diagnostics is desired, select one of the hardware status functions (VME CARDS RACK, MODEM RACK, ACU POWER, ACU UPS) from the displayed menu by using the PRE or NEXT keys to position the cursor at the menu command and then pressing the SEL key.

h.   If return to the MAINT screen is desired, press the BACK key.

i.   If return to the one-minute screen is desired, press the EXIT key.

j   If a command for the ceilometer sensor is desired, then;

   1.   Press the DIALG key to enable command entry.

   2.   Enter command information in the ENTER COMMAND field and press RETURN. Refer to the Site Technical Manual (Ceilometer CT-12K) for an explanation of possible commands and sensor responses including error status.

5.3.1.5   **Termination**. The Maintenance Function is terminated by executing a menu command using the SEL key or using the EXIT key.

5.3.1.6   **Restart**. Perform the following procedure to restart the Maintenance Function.

a.   Select the Maintenance Function key from the function key template.

b.   Select MAINT-ACU-NEXT until the appropriate sensor is highlighted and then select SEL.

5.3.1.7   **Outputs**. The output of the Maintenance Function is the applicable sensor status derived from the status of the applicable sensor. The status field may indicate P (Pass), F (Fail), C (Caution), T (Test), or* (insufficient information). The status field indicates a P if the applicable sensor has a pass status. The status field indicates an F if the applicable sensor has a fail status. The status field indicates a C if the applicable sensor has a caution status. The status field indicates a T if the applicable sensor has a test status. The status field indicates an * if there is insufficient information.

5.3.1.8   **Interrelationship**. The various Maintenance Software programs perform top-level, mid-level, and/or low level functions within the Technician Interface Software. They are accessed directly from the 1-minute Screen. These function provides access to other Technician Interface Software functions and can be accessed only by the Technician and System Manager users.

5.3.2 **Maintenance Functions**.

The Maintenance Function displays the overall status of the ACU, DCPs, ACU/DCP Communications, and provides menu commands to access sensor and hardware status functions. The Maintenance Function also provides menu commands to invoke functions which reset processors and provides a key command to record maintenance action.

5.3.2.1   **Execution Options.** - Refer to paragraph 5.3.1.2 for execution options.

5.3.2.2   **User Inputs.** - The only user inputs associated with the top-level Maintenance Function are the Agency Stock Number, Unit Serial Number and the Field Modification Kit Number associated with maintenance actions.

5.3.2.3   **System Inputs.** - System inputs processing are described in paragraph 5.3.1.3 and as described below:

ACU - The ACU status field indicates the overall status of the ACU. The ACU status is based on the status of each local sensor and the ACU hardware status. The input to this status field is based on a search for the associated status of P (all components of the unit are passing), F (at least one component of the unit is failing), C (indicates the unit is currently passing but failures previously existed), D (degraded, indicates 5 or more SIO loopback or MODEM failures, but not currently failed), T (the unit is currently undergoing diagnostic test) from the ACU Status Page, or * (insufficient information).

DCP # 1, #2, and #3 - The DCP status field indicates the overall status of each configured DCP. The DCP status is derived from the status of each DCP sensor and the DCP hardware status. The input to this status field is based on a search for the associated status of P, F, C, D, T, or * from the Remote DCP Status Page.

NOTE

The D (degraded status fail count totals from the ACU and DCP are entered in the Syslog at 0600 LST each day after which the fail counts are reset to zero. Those fail counts on the corresponding maintenance screens shall also continue to be automatically entered in the Syslog at the time of detection.

ACU/DCP COMMS - The status field indicates the overall status of ACU and DCP communications. The communications status is derived from the status of each communication device. The input for this status field is based on a search for the associated status of P, F, C or * from Communications Status Page.

5.3.2.4   **Execution.** - Refer to paragraph 5.3.1.4 for execution procedures.

5.3.2.5   **Termination.** - Refer to paragraph 5.3.1.5 for the termination procedure.

5.3.2.6   **Restart.** - Refer to paragraph 5.3.1.6 for the restart procedures.

5.3.2.7   **Outputs.** - Output processing of the Maintenance Function are described paragraph 5.3.1.7 and outputs as listed below:

ACU - The ACU status field indicates the overall status of the ACU. The ACU status is based on the status of each local sensor and the ACU hardware status. The output from the status field is based on a search for the associated status of P (all components of the unit are passing), F (at least one component of the unit is failing), C (indicates the unit is currently passing but failures previously existed), D (degraded, indicates 5 or more SIO loopback or MODEM failures, but not currently failed), T (the unit is currently undergoing diagnostic test) from the ACU Status Page, or * (insufficient information).

DCP # 1, #2, and #3 - The DCP status field indicates the overall status of each configured DCP. The DCP status

is derived from the status of each DCP sensor and the DCP hardware status. The status field mat indicated P, F, C, D, T, or * from the Remote DCP Status Page. The status field indicates a P if all DCP sensors and DCP hardware have a pass status. The status fields indicates an F if any of the sensors or hardware have a fail status and none of the sensors or hardware have a test or caution status. The status field indicates a C if any of the sensors or hardware have a caution status and none of the sensors or hardware have a fail or test status. The status field indicates a D if 5 or more SIO loopback or MODEM failures have occurred and are not currently failed. The status field indicates a T if any of the sensors or hardware have a test status. The status field indicates an * if there is insufficient information.

NOTE
The D (degraded status fail count totals from the ACU and DCP are entered in the Syslog at 0600 LST each day after which the fail counts are reset to zero. Those fail counts on the corresponding maintenance screens shall also continue to be automatically entered in the Syslog at the time of detection.

ACU/DCP COMMS - The status field indicates the overall status of ACU and DCP Communications. The communications status is derived from the status of each communication device. The status field indicates P, F, C or * from Communications Status Page. The status field indicates a P if communications has a pass status. The status field indicates an F if communications has a fail status. The status field indicates a C if ACU/DCP communications failures on any link exceed 20 percent over the last 24 hours. A status field indicating a C if may be cleared by pressing the CLR key. The status field indicates an * if there is insufficient information.

5.3.2.8   **Interrelationship.** - Refer to paragraph 5.3.1.8 for interrelationship description.

5.3.3 **ACU Status Function.**

The ACU Status Function displays the status of each ACU sensor and hardware area. It also provides menu commands to access sensor diagnostic functions, hardware status, and diagnostic functions. Refer to figure 5-6 for the ACU Status Page and the System Help Screen.

5.3.3.1   **Execution Options.** - Refer to paragraph 5.3.1.2 for execution procedures and the following for specific menu commands.

MENU COMMANDS

The Menu Commands section provides a description of each possible sensor field, although only those sensors configured will appear on the Status Page.

PRESSURE SENSOR #1, #2, and #3 - Initiates the Pressure Sensor Diagnostic Function for each configured Pressure Sensor connected to the ACU. The Pressure Sensor Diagnostic Function display indicates the overall status for each configured Pressure Sensor. The Pressure Sensor Diagnostic Function display page permits the Technician to set or clear various device parameters, and to perform device diagnostics.

PRESENT WEATHER - Initiates the Present Weather Sensor Diagnostic Function. The Present Weather Sensor Diagnostic Function display indicates the overall status of the Present Weather Sensor connected to the ACU. The Present Weather Sensor Diagnostic Function display page presents a list of discrete sensor parameters and the value and/or status of those parameters. The page also permits the Technician to initiate a sensor self-test.

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    +)))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))),
 *    LOCAL SENSORS:                          HARDWARE:                          *
 * PRESSURE SENSOR #1     F                                                       *
 * PRESSURE SENSOR #2     F             VME CARDS RACK     F                      *
 * PRESSURE SENSOR #3     F                                                       *
 * PRESENT WEATHER        P             MODEM RACK         F                      *
 * WIND SPEED/DIR         P                                                       *
 * TEMP/DEWPOINT          P             ACU POWER          P                      *
 * VISIBILITY #1          P                                                       *
 * VISIBILITY #2          P             ACU UPS            P                      *
 * VISIBILITY #3          P                                                       *
 * CEILOMETER #1          P             GTA RADIO          P                      *
 * CEILOMETER #2          P                                                       *
 * CEILOMETER #3          P                                                       *
 * TIPPING BUCKET         P                                                       *
 * SNOW DEPTH             P                                      ACU STATUS       *
  * FREEZING RAIN            F                              +)))))0)))))0)))))1
 * FROZEN PRECIP          F                                *PRINT*CLEAR*PREV *
  * SUNSHINE                 P                              /)))))3)))))3)))))1
 * THUNDERSTORM           P                                *SEL  *     *     *
  *                                                        /)))))3)))))3)))))1
 *                                                         *EXIT *BACK *NEXT *
    .)))))))))))))))))))))))))))))))))))))))))))))))))))))2)))))2)))))2)))))-


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    +)))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))),
 *PRINT - PRINT THE CURRENT SCREEN ON THE ASOS PRINTER                           *
 *                                                                               *
 *CLEAR - CLEAR ALL COUNTERS FOR PASS/FAIL FIELDS ON THIS PAGE AND               *
 *ALL PAGES SUMMARIZED BY THIS PAGE                                              *
 *PREV  - MOVE THE CURSOR TO THE PREVIOUS FIELD                                  *
 *                                                                               *
 *SEL   - DISPLAYS THE PAGE SELECTED BY THE CURRENT CURSOR POSITION              *
 *                                                                               *
 *                                                                               *
 *                                                                               *
 *                                                                               *
 *                                                                               *
 *EXIT  - RETURN THE USER TO THE ONE-MINUTE SCREEN                               *
 *                                                                               *
 *BACK  - RETURN THE USER TO THE PREVIOUS SCREEN / KEYPAD                        *
 *                                                                               *
 *NEXT  - MOVE THE CURSOR TO THE NEXT FIELD                                      *
 *                                                                               *
 *                                                                               *
 *                    PRESS HELP OR KEYPAD 0 TO EXIT HELP                        *
 *                                                                               *
    .)))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))-
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Figure 5-6. ACU Status and System Help Screen

WIND SPEED/DIR - Initiates the Wind Speed/Direction Diagnostic Function. The Wind Speed/Direction Diagnostic Function display indicates the status of the Wind Speed/Direction sensor connected to the ACU. The Wind Speed/Direction Diagnostic Function display page presents a list of discrete sensor parameters and the value and/or status of those parameters. The page also permits the Technician to initiate a sensor self-test.

TEMP/DEWPOINT - Initiates the Temperature/Dewpoint Diagnostic Function. The Temperature/Dewpoint Diagnostic Function Display indicates the overall status of the H083 or 1088 Temperature and Dewpoint sensors connected to the ACU. The Temperature/Dewpoint Diagnostic Function has two capabilities depending on which sensor is configured on the system. The H083 Sensor display page indicates the status of two parameters of the sensor, HEAT CYCLE and the THERMAL RUNWAY. The 1088 Sensor display page permits the Technician to perform on-demand diagnostic testing of the 1088.

VISIBILITY #1, #2, and #3 - Initiates the Visibility Sensor Diagnostic Function for each configured Visibility Sensor. The Visibility Sensor Diagnostic Function displays the overall status for each configured Visibility Sensor. The Visibility Sensor display page presents a list of discrete sensor parameters and the status of those parameters.

CEILOMETER #1, #2, and #3 - Initiates the Ceilometer Diagnostic Function for each configured Ceilometer sensor connected to the ACU. The Ceilometer Diagnostic Function display indicates the overall status for each configured Ceilometer sensor. The Ceilometer Diagnostic Function display page permits the Technician to change ceilometer parameters.

TIPPING BUCKET - The Tipping Bucket status field indicates the Data Quality status.

SNOW DEPTH - Initiates the Snow Depth Sensor Diagnostic Function. The Snow Depth Diagnostic Function displays the overall status of the Snow Depth Sensor. When available the Snow Depth Sensor display page will present a list of discrete sensor parameters and the status of those parameters.

FREEZING RAIN - Initiates the Freezing Rain Sensor Diagnostic Function. The Freezing Rain Diagnostic Function displays the overall status of the Freezing Rain Sensor. The Freezing Rain Sensor display page will present a list of discrete sensor parameters and the status of those parameters.

FROZEN PRECIP - Initiates the Frozen Precipitation Sensor Diagnostic Function. The Frozen Precipitation Diagnostic Function displays the overall status of the Frozen Precip Sensor. When available the Frozen Precip Sensor display page will present a list of discrete sensor parameters and the status of those parameters.

SUNSHINE - Initiates the Sunshine Sensor Diagnostic Function. The Sunshine Diagnostic Function displays the overall status of the Sunshine Sensor. When available the Sunshine Sensor display page will present a list of discrete sensor parameters and the status of those parameters.

THUNDERSTORM - Initiates the Thunderstorm Sensor Diagnostic Function. The Thunderstorm Diagnostic Function displays the overall status of the Thunderstorm Sensor. When available the Thunderstorm Sensor display page will present a list of discrete sensor parameters and the status of those parameters.

VME CARDS RACK - Initiates the ACU VME Cards Rack Status Function. The ACU VME Cards Rack Status Function displays the overall status of the VME card rack boards connected to the ACU. The ACU VME Card Rack Display page permits the Technician to access sensor diagnostic functions and hardware status and diagnostic functions.

MODEM RACK - Initiates the Modem Rack Diagnostic Function. The Modem Rack Diagnostic Function

display indicates the overall status of the ACU Modem Rack. The Modem Rack Diagnostic Function display page permits the technician to perform a confidence test on each configured (except RF) modem in the ASOS.

ACU POWER - Initiates the ACU Power Diagnostic Function. The ACU Power Diagnostic Function Display indicates the overall status of all Direct Current (DC) power supplies within the ACU. The ACU Power Diagnostic Function display page enables the Technician to perform an on-demand diagnostic test on all power supplies within the ACU.

ACU UPS - Initiates the Uninterruptible Power Supply (UPS) Diagnostic Function for the ACU UPS. The ACU UPS Diagnostic Function Display indicates the overall status of all power-related functions within the ACU. The ACU UPS Diagnostic Function display page enables the Technician to perform an on-demand diagnostic test of the primary UPS within the ACU.

GTA Radio - Initiates the Ground-To-Air (GTA) Radio Diagnostic Function for the GTA Radio. The GTA Radio Diagnostic Function Display indicates the overall status of the GTA Radio. The GTA Radio Diagnostic Function display page enables the Technician to perform an on-demand diagnostic test of the GTA Radio.

5.3.3.2   **User Inputs**. - There are no user inputs to the ACU Status Function.

5.3.3.3   **System Inputs.** - System inputs to the ACU Status Function are processed as shown paragraph 5.3.1.3 and are listed below:

PRESSURE SENSOR #1, #2, and #3 - The Pressure Sensor Status field indicates the overall status for each configured Pressure Sensor connected to the ACU. The pressure sensor status is derived from the status of each pressure sensor. .

PRESENT WEATHER - The Present Weather Status field indicates the overall status of the Present Weather Sensor connected to the ACU. The present weather status is derived from the status of the present weather sensor.

WIND SPEED/DIR - The Wind Speed/Direction Status field indicates the overall status of the Wind Speed/Direction Sensor connected to the ACU. The wind speed/direction status is derived from the status of the wind speed/direction sensor.

TEMP/DEWPOINT - The Temperature/Dewpoint Status field indicates the overall status of the H083 or 1088 Temperature/Dewpoint Sensor connected to the ACU. The temperature/dewpoint status is derived from the status of the temperature/dewpoint sensor.

VISIBILITY #1, #2, and #3 - The Visibility Status field indicates the overall status for each configured Visibility Sensor connected to the ACU. The visibility status is derived from the status of the applicable visibility sensor.

CEILOMETER #1, #2, and #3 - The Ceilometer Status field indicates the overall status for each configured Ceilometer Sensor connected to the ACU. The ceilometer status is derived from the status of the applicable ceilometer sensor.

TIPPING BUCKET - The Tipping Bucket status field indicates the pass/fail status of tipping bucket data quality.

SNOW DEPTH - The Snow Depth Status field indicates the overall status of the ACU Snow Depth Sensor. The snow depth status is derived from the status of the snow depth sensor.

FREEZING RAIN - The Freezing Rain Status field indicates the overall status of the ACU Freezing Rain

Sensor. The freezing rain status is derived from the status of the freezing rain sensor.

FROZEN PRECIP - The Frozen Precipitation Status field indicates the overall status of the ACU Frozen Precipitation Sensor. The frozen precipitation status is derived from the status of the frozen precipitation sensor.

SUNSHINE - The Sunshine Status field indicates the overall status of the ACU Sunshine Sensor. The sunshine status is derived from the status of the sunshine sensor.

THUNDERSTORM - The Thunderstorm Status field indicates the overall status of the ACU Thunderstorm Sensor. The status is derived from the status of the thunderstorm sensor. .

VME CARDS RACK - The VME Cards Rack Status field indicates the overall status of the ACU VME Cards Rack. The VME cards rack status is derived from the status of the VME cards rack.

MODEM RACK - The Modem Rack Status field indicates the overall status of the ACU Modem Rack. The modem rack status is derived from the status of the modem rack.

ACU POWER - The ACU Power Status field indicates the overall status of the ACU Power Supply. The ACU Power status is derived from the status of the ACU power supply.

ACU UPS - The ACU UPS Status field indicates the overall status of the ACU Uninterruptible Power Supply (UPS). The ACU UPS status is derived from the status of the ACU UPS. .

GTA Radio - The GTA Radio Status field indicates the overall status of the GTA Radio. The GTA Radio status is derived from the status of the GTA Radio.

5.3.3.4   **Execution**. -Refer to paragraph 5.3.1.4 for execution procedures.

5.3.3.5   **Termination**. - Refer to paragraph 5.3.1.5 for the termination procedure.

5.3.3.6   **Restart**. - Refer to paragraph 5.3.1.6 for restart procedures.

5.3.3.7   **Outputs.** - Outputs are processed as shown in paragraph 5.3.1.7 and are listed by the following:

> NOTE: The sensor fields are updated only if the local DCP sensors are located in, or directly connected to, the ACU. The local DCP normally communicates with two or three pressure sensors, and up to three additional sensors. The status field may indicate P (Pass), F (Fail), C (Caution), T (Test), or* (insufficient information).

PRESSURE SENSOR #1, #2, and #3 - The Pressure Sensor Status field indicates the overall status for each configured Pressure Sensor connected to the ACU. The pressure sensor status is derived from the status of the applicable pressure sensor. The status field indicates a P if the applicable pressure sensor has a pass status. The status field indicates an F if the applicable pressure sensor has a fail status. The status field indicates a C if the applicable pressure sensor has a caution status. The status field indicates a T if the applicable pressure sensor has a test status. The status field indicates an * if there is insufficient information.

PRESENT WEATHER - The Present Weather Status fields indicates the overall status of the Present Weather Sensor connected to the ACU. The present weather status is derived from the status of the present weather sensor. The status field indicates a P if the present weather sensor has a pass status. The status field indicates an F if the present weather sensor has a fail status. The status field indicates a C if the present weather sensor has a caution status. The status field indicates a T if the present weather sensors have a test status. The status field indicates an * if there is insufficient information.

WIND SPEED/DIR - The Wind Speed/Direction Status field indicates the overall status of the Wind Speed/Direction Sensor connected to the ACU. The wind speed/direction status is derived from the status of the wind speed/direction sensor. The status field indicates a P if the wind speed/direction sensor has a pass status. The status field indicates an F if the wind speed/direction sensor has a fail status. The status field indicates a C if the wind speed/direction sensor has a caution status. The status field indicates a T if the wind speed/direction sensor has a test status. The status field indicates an * if there is insufficient information.

TEMP/DEWPOINT - The Temperature/Dewpoint Status field indicates the overall status of the H083 or 1088 Temperature/Dewpoint Sensor connected to the ACU. The temperature/dewpoint status is derived from the status of the temperature/dewpoint sensor. The status field may indicate P (Pass), F (Fail), C (Caution), T (Test), or * (insufficient information). The status field indicates a P if the temperature/dewpoint sensor has a pass status. The status field indicates an F if the temperature/dewpoint sensor has a fail status. The status field indicates a C if the temperature/dewpoint sensor has a caution status. The status field indicates a T if the temperature/dewpoint sensor has a test status. The status field indicates an * if there is insufficient information.

VISIBILITY #1, #2, and #3 - The Visibility Status field indicates the overall status for each configured Visibility Sensor connected to the ACU. The visibility status is derived from the status of each visibility sensor. The status field indicates a P if the applicable visibility sensor has a pass status. The status field indicates an F if the applicable visibility sensor has a fail status. The status field indicates a C if the applicable visibility sensor has a caution status. The status field indicates a T if any of the visibility sensors have a test status. The status field indicates an * if there is insufficient information.

CEILOMETER #1, #2, and #3 - The Ceilometer Status field indicates the overall status for each configured Ceilometer Sensor connected to the ACU. The ceilometer status is derived from the status of the applicable ceilometer sensor. The status field indicates a P if the applicable ceilometer sensor has a pass status. The status field indicates an F if the applicable ceilometer sensor has a fail status. The status field indicates a C if the applicable ceilometer sensor has a caution status. The status field indicates a T if the applicable ceilometer sensor has a test status. The status field indicates an * if there is insufficient information.

TIPPING BUCKET - The Tipping Bucket status field indicates the data quality status for the tipping bucket. The status field indicates a P if the tipping bucket data quality has a pass status. The status field indicates an F if the tipping bucket data quality has a fail status.

SNOW DEPTH - The Snow Depth Status field indicates the overall status of the ACU Snow Depth Sensor. The snow depth status is derived from the status of the snow depth sensor. The status field may indicate P (Pass), F (Fail), C (Caution), T (Test), or * (insufficient information). The status field indicates a P if the snow depth sensor has a pass status. The status field indicates an F if the snow depth sensor has a fail status. The status field indicates a C if the snow depth sensor has a caution status. The status field indicates a T if the snow depth sensor has a test status.

FREEZING RAIN - The Freezing Rain Status field indicates the overall status of the ACU Freezing Rain Sensor. The freezing rain status is derived from the status of the freezing rain sensor. The status field may indicate P (Pass), F (Fail), C (Caution), T (Test), or * (insufficient information). The status field indicates a P if the freezing rain sensor has a pass status. The status field indicates an F if the freezing rain sensor has a fail status. The status field indicates a C if the freezing rain sensor has a caution status. The status field indicates a T if the freezing rain sensor has a test status.

FROZEN PRECIP - The Frozen Precipitation Status field indicates the overall status of the ACU Frozen Precipitation Sensor. The frozen precipitation status is derived from the status of the frozen precipitation sensor. The status field indicates a P if the frozen precipitation sensor has a pass status. The status field indicates an F if the frozen precipitation sensor has a fail status. The status field indicates a C if the frozen precipitation sensor has a caution status. The status field indicates a T if the frozen precipitation sensor has a test status.

SUNSHINE - The Sunshine Status field indicates the overall status of the ACU Sunshine Sensor. The sunshine

status is derived from the status of the sunshine sensor. The status field indicates a P if the sunshine sensor has a pass status. The status field indicates an F if the sunshine sensor has a fail status. The status field indicates a C if the sunshine sensor has a caution status. The status field indicates a T if the sunshine sensor has a test status.

THUNDERSTORM - The Thunderstorm Status field indicates the overall status of the ACU Thunderstorm Sensor. The status is derived from the status of the thunderstorm sensor. The status field indicates a P if the sensor has a pass status. The status field indicates an F if the sensor has a fail status. The status field indicates a C if the sensor has a caution status. The status field indicates a T if the sensor has a test status.

VME CARDS RACK - The VME Cards Rack Status field indicates the overall status of the ACU VME Cards Rack. The VME cards rack status is derived from the status of the VME cards rack. The status field indicates a P if the VME cards rack has a pass status. The status field indicates an F if the VME cards rack has a fail status. The status field indicates a D if five or more SIO loopback failures have occurred and they are not currently failed. The status field indicates a T if the VME cards rack has a test status.

MODEM RACK - The Modem Rack Status field indicates the overall status of the ACU Modem Rack. The modem rack status is derived from the status of the modem rack. The status field indicates a P if the modem rack has a pass status. The status field indicates an F if the modem rack has a fail status. The status field indicates a D if five or more MODEM failures have occurred and they are not currently failed. The status field indicates a T if the modem rack has a test status.

ACU POWER - The ACU Power Status field indicates the overall status of the ACU Power Supply. The ACU Power status is derived from the status of the DC power supplies within the ACU. The status field indicates a P if ACU Power has a pass status. The status field indicates an F if ACU Power has a fail status. The status field indicates a T if ACU Power has a test status.

ACU UPS - The Status field indicates the overall status of the ACU Uninterruptible Power Supply (UPS). The ACU UPS status is derived from the status of the uninterruptible power supply. The status field may indicate P (Pass), F (Fail), T (Test), or* (insufficient information). The status field indicates a P if the ACU UPS has a pass status. The status field indicates an F if the ACU UPS has a fail status. The status field indicates a T if the ACU UPS has a test status.

GTA Radio - The GTA Radio Status Field indicates the overall status of the GTA Radio. The GTA Radio status is derived from the status of the GTA Radio. The status field may indicate P (Pass), F (Fail), T (Test), or* (insufficient information). The status field indicates a P if the GTA Radio has a pass status. The status field indicates an F if the GTA Radio has a fail status. The status field indicates a T if the GTA Radio has a test status.

5.3.3.8   **Interrelationship.** - Refer to paragraph 5.3.1.8 interrelationship description.

5.3.4   <u>**ACU Pressure Sensor #1, #2, #3 Diagnostic Function.**</u>

The ACU Pressure Sensor #1, #2, #3 Diagnostic Function provides maintenance personnel with the capability to observe status and set or clear various device parameters. Refer to figure 5-7 for the Pressure Sensor #1, #2, #3 Page and the System Help Screen.

5.3.4.1   **Execution Options.** - Refer to paragraph 5.3.1.2 for execution options.

5.3.4.2   **User Inputs**. - There are no user inputs to the Pressure Sensor Diagnostic Function.

5.3.4.3   **System Inputs**. - System inputs to the Pressure Sensor Diagnostic Function are processed in paragraph 5.3.1.3 and are listed below:

The pressure sensor range is from 26.0 to 31.0 in Hg sampled at a 10 second rate. The reportable values are 0.005 inHg with an altimeter setting in 0.01 inHg with any change over three hours noted to the nearest 0.1 hectopascal.

5.3.4.4   **Execution.** - Refer to paragraph 5.3.1.4 for execution procedures.

5.3.4.5   **Termination.** - Refer to paragraph 5.3.1.5 for the termination procedure.

5.3.4.6   **Restart.** - Refer to paragraph 5.3.1.6 for the restart procedure.

5.3.4.7   **Outputs.** - Outputs of the Pressure Sensor Diagnostic Function are processed as shown in paragraph 5.3.1.7.

5.3.4.8   **Interrelationship.** - Refer to paragraph 5.3.1.8 for interrelationship description.

5.3.5   <u>**Present Weather Sensor Diagnostic Function.**</u>

The Present Weather Sensor Diagnostic Function display indicates the status of the Present Weather sensor. The display also presents a list of discrete sensor parameters and the value and/or status of those parameters. The Technician may initiate a complete sensor self-test by pressing the TEST key. Refer to figure 5-8 for the Present Weather Sensor Page and the Present Weather Sensor Page Help Screen, respectively.

5.3.5.1   **Execution Options.** - Refer to paragraph 5.3.1.2 for executions options.

5.3.5.2   **User Inputs.** - There are no user inputs to the Present Weather Sensor Diagnostic Function.

5.3.5.3   **System Inputs.** - System inputs to the Present Weather Sensor Diagnostic Function are:

The system sends a "B" command and a "C" command once every minute to the sensor to initiate a test of sensor parameters. (See Interface Control Document) A character or group of characters within the message strings define the status of the individual sensor parameters. When the TEST key is pressed, the sensor PASS/FAIL locations are overwritten with "T". The next time the "B" and "C" commands are sent, the PASS/FAIL locations are updated appropriately.

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     +)))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))),
   *                                                                                *
   *                                    DATA QUALITY          P          *
   *                                    REPORT PROCESS        Y          *
   *                                    SENSOR RESPONSE       P          *
   *                                                                                *
   *                                                                                *
   *                                                                                *
   *                                                                                *
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   *                                                               PRESSURE #N     *
    *                                                +)))))0)))))0)))))1
   *                                                *PRINT*CLEAR*         *
    *                                                /)))))3)))))3)))))1
   *                                                *TEST *       *      *
    *                                                /)))))3)))))3)))))1
   *                                                *EXIT *BACK *      *
     .)))))))))))))))))))))))))))))))))))))))))))))))))))))))))))2)))))2)))))2)))))-




  11:21:56 07/04/96 1621Z                                         ANYTOWN AIRPORT
     +)))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))),
   *PRINT - PRINT THE CURRENT SCREEN ON THE ASOS PRINTER                            *
   *                                                                                *
   *CLEAR - CLEAR ALL COUNTERS FOR PASS/FAIL FIELDS ON THIS PAGE AND                *
   *ALL PAGES SUMMARIZED BY THIS PAGE                                               *
   *                                                                                *
   *                                                                                *
   *TEST  - RUN EXTENDED DIAGNOSTIC TEST(S) ON THE SELECTED DEVICE                  *
   ***** W A R N I N G **** THIS TEST MAY CAUSE TEMPORARY LOSS OF DATA              *
   *                                                                                *
   *                                                                                *
   *                                                                                *
   *                                                                                *
   *                                                                                *
   *                                                                                *
   *EXIT  - RETURN THE USER TO THE ONE-MINUTE SCREEN                                *
   *                                                                                *
   *BACK  - RETURN THE USER TO THE PREVIOUS SCREEN / KEYPAD                         *
   *                                                                                *
   *                                                                                *
   *                    PRESS HELP OR KEYPAD 0 TO EXIT HELP                         *
   *                                                                                *
     .)))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))-
```

Figure 5-7. Pressure Sensor #1, #2, #3 Page and System Help Screen

```
 11:21:56 07/04/96 1621Z                                  ANYTOWN AIRPORT
    +)))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))),
 *  ERROR STATUS CODE            0000 P      DATA QUALITY       F        1 *
 *  SIMULATED EVENT                NP P      REPORT PROCESS     Y          *
 *  SIMULATED AMOUNT             1234 P      SENSOR RESPONSE    F        1 *
 *  SIMULATED DATA SUM             90 P                                    *
 *  CARRIER AVERAGE RAW DATA     350                                       *
 *  CHANNEL LOCK ON/OFF          111                                       *
 *  LOW AVERAGE RAW DATA         -36                                       *
 *  LOW CHANNEL BASELINE         -30                                       *
 *  PEAK AVERAGE RAW DATA        145                                       *
 *  PARTICLE BASELINE            141                                       *
 *  HIGH AVERAGE RAW DATA        068                                       *
 *  HIGH CHANNEL BASELINE        069                                       *
 *  DIAG DATA SUM                 BA P                                     *
 *                                                                         *
 *                                                      PRESENT WEATHER *
  *                                                      +)))))0)))))0)))))1
 *                                                      *PRINT*CLEAR*     *
  *                                                      /)))))3)))))3)))))1
 *                                                      *TEST *     *     *
  *                                                      /)))))3)))))3)))))1
 *                                                      *EXIT *BACK *     *
    .)))))))))))))))))))))))))))))))))))))))))))))))))))))))2)))))2)))))2)))))-



 11:21:56 07/04/96 1621Z                                  ANYTOWN AIRPORT
    +)))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))),
*PRINT - PRINT THE CURRENT SCREEN ON THE ASOS PRINTER                      *
*                                                                          *
*CLEAR - CLEAR ALL COUNTERS FOR PASS/FAIL FIELDS ON THIS PAGE AND          *
*ALL PAGES SUMMARIZED BY THIS PAGE                                         *
*                                                                          *
*                                                                          *
*TEST  - RUN EXTENDED DIAGNOSTIC TEST(S) ON THE SELECTED DEVICE            *
***** W A R N I N G  **** THIS TEST MAY CAUSE TEMPORARY LOSS OF DATA       *
*                                                                          *
*                                                                          *
*                                                                          *
*                                                                          *
*                                                                          *
*                                                                          *
*EXIT  - RETURN THE USER TO THE ONE-MINUTE SCREEN                          *
*                                                                          *
*BACK  - RETURN THE USER TO THE PREVIOUS SCREEN / KEYPAD                   *
*                                                                          *
*                                                                          *
*                  PRESS HELP OR KEYPAD 0 TO EXIT HELP                     *
*                                                                          *
    .)))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))-
```

Figure 5-8. Present Weather Sensor Page and System Help Screen

5.3.5.4 **Execution.** - Refer to paragraph 5.3.1.4 for execution options.

5.3.5.5 **Termination.** - Refer to paragraph 5.3.1.5 for the termination procedure.

5.3.5.6 **Restart**. -Refer to paragraph 5.3.1.6 for restart procedures.

5.3.5.7 **Outputs.** - Outputs of the Present Weather Sensor Diagnostic Function are:

ERROR STATUS CODE - Bytes 11-14 in the "C" test response message are ASCII encoded error status codes. Each status code represents two bytes of binary information. Each bit of binary information corresponds to a status flag set in the sensor for each FRU. Refer to the Site Technical Manual for more information.

SIMULATED EVENT - Bytes 3-4 in the "B" test response message represent the simulated precipitation event. The software contains a value of the simulated weather event.

SIMULATED AMOUNT - Bytes 5-9 in the "B" test response message represent the simulated precipitation amount. The software contains a value of the "P1234" simulated precipitation amount.

SIMULATED DATA SUM - Bytes 10-14 in the "B" test response messages contains the checksum of the simulated data. This test sums the ASCII bytes of the data being received from the sensor and compares it to a checksum value received directly from the sensor.

DIAG DATA SUM - Bytes 15-16 in the "C" test response message contains the checksum of the diagnostic data. This test sums the ASCII bytes of the data being received from the sensor and compares it to a checksum value received directly from the sensor.

5.3.5.8 **Interrelationship.** - Refer to paragraph 5.3.1.8 for interrelationship description.

5.3.6 **Wind Speed/Direction Sensor Diagnostic Function.**

The Wind Speed/Direction Sensor Diagnostic Function display indicates the status of the Wind Speed/Direction Sensor. The display also presents a list of discrete sensor parameters and the value and/or status of those parameters. The Technician may initiate a complete sensor self-test by pressing the TEST key. Refer to figure 5-9 for the Wind Speed and Direction Sensor Page.

5.3.6.1 **Execution Options.** - Refer to paragraph 5.3.1.2 for execution options.

5.3.6.2 **User Inputs**. - There are no user inputs to the Wind Speed/Direction Sensor Diagnostic Function.

5.3.6.3 **System Inputs.** - Refer to paragraph 5.3.1.3 for system inputs processing. System inputs to the Wind Speed/Direction Sensor Diagnostic Function are

The system sends a "W6" command and a "WD" command once every minute to the sensor to initiate a test of sensor parameters. (sensor responds to the system software with a 15 character message from the "W6" test and a 42 character message from the "WD" test. When the TEST key is pressed, the sensor PASS/FAIL locations are overwritten with "T". The next time the "W6" and "WD" commands are sent, the PASS/FAIL locations are updated appropriately.

```
 11:21:56 07/04/96 1621Z                                      ANYTOWN AIRPORT
    +))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))),
* SENSOR STATUS                     P        POWER SUPPLY GROUND   +0.0      *
* SIM WIND DIRECTION          123   P        POWER SUPPLY + 5.0 V  +5.0      *
* SIM WIND SPEED              045   P        ENCLOSURE TEMP        +010C     *
* SIM DATA CKSUM              1C    P        EXTERNAL TEMP         +000C     *
* WIND SPEED UNITS            K              DIAG DATA CHECK   DF  P         *
* SPEED ERROR                       P                                       *
* DIRECTION ERROR                   P        DATA QUALITY          P        *
* VOLTAGE ERROR                     P        REPORT PROCESS        Y        *
* SPEED SENSOR MISSING              P        SENSOR RESPONSE       P        *
* DIR SENSOR MISSING                P                                       *
* TEMPERATURE ERROR                 P                                       *
* FATAL ERROR                       P                                       *
* RAM CHECK                         P                                       *
* ROM CHECK                         P                                       *
*                                                        WIND LIGHT WEIGHT *
 *                                                        +)))))0)))))0)))))1
*                                                        *PRINT*CLEAR*      *
 *                                                        /)))))3)))))3)))))1
*                                                        *TEST *      *     *
 *                                                        /)))))3)))))3)))))1
*                                                        *EXIT *BACK *      *
    .)))))))))))))))))))))))))))))))))))))))))))))))))))))))))))2)))))2)))))2)))))-
```

```
 11:21:56 07/04/96 1621Z                                      ANYTOWN AIRPORT
    +))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))),
*PRINT - PRINT THE CURRENT SCREEN ON THE ASOS PRINTER                       *
*                                                                           *
*CLEAR - CLEAR ALL COUNTERS FOR PASS/FAIL FIELDS ON THIS PAGE AND           *
*ALL PAGES SUMMARIZED BY THIS PAGE                                          *
*                                                                           *
*                                                                           *
*TEST  - RUN EXTENDED DIAGNOSTIC TEST(S) ON THE SELECTED DEVICE             *
***** W A R N I N G **** THIS TEST MAY CAUSE TEMPORARY LOSS OF DATA         *
*                                                                           *
*                                                                           *
*                                                                           *
*                                                                           *
*                                                                           *
*                                                                           *
*EXIT  - RETURN THE USER TO THE ONE-MINUTE SCREEN                           *
*                                                                           *
*BACK  - RETURN THE USER TO THE PREVIOUS SCREEN / KEYPAD                     *
*                                                                           *
*                                                                           *
*                      PRESS HELP OR KEYPAD 0 TO EXIT HELP                   *
*                                                                           *
    .)))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))-
```

Figure 5-9. Wind Speed and Direction Sensor Page and System Help Screen

5.3.6.4 **Execution**. -Refer to paragraph 5.3.1.4 for execution procedures.

5.3.6.5 **Termination**. - Refer to paragraph 5.3.1.5 for the termination procedure.

5.3.6.6 **Restart.** - Refer to paragraph 5.3.1.6 for the restart procedures.

5.3.6.7 **Outputs**. - Refer to paragraph 5.3.1.7 for outputs processing. Outputs of the Wind Speed/Direction Sensor Diagnostic Function are:

SENSOR STATUS - The status field contains a symbol indicating the status of the Wind Speed/Direction Sensor.

SIM WIND DIRECTION - Bytes 5-7 in the "W6" test response message contains the status of the simulated wind direction reading. The simulated wind direction value is 123.

SIM WIND SPEED - Bytes 8-11 in the "W6" test response message contains the status of the simulated wind speed reading. The wind sensor sends an ASCII string which is used to determine if communications are successful. The ASCII simulated wind speed value is 045.

WIND SPEED (BYTE 12) UNITS - The units field displays current units for windspeed
<div style="margin-left:4em">
K = Knots
M = MPH
m = Meters/Second
R = Revs/Minute
P = Pulses/Second
</div>

SIM DATA CKSUM - Bytes 40-41 in the "W6" test response message contains the checksum of the simulated data. This test sums the values received for sensor ID, sensor status and wind direction and speed and compares it to a checksum value received from the wind sensor.

SPEED ERROR - Byte 31 in the "WD" test response message contains the speed error flag.

DIRECTION ERROR - Byte 32 in the "WD" test response message contains the direction error flag..

VOLTAGE ERROR - Byte 33 in the "WD" test response message contains the voltage out of range flag.

SPEED SENSOR MISSING - Byte 34 in "WD" test response message contains the speed head missing flag.
DIR SENSOR MISSING - Byte 35 in the "WD" test response message contains the direction head missing flag.

TEMPERATURE ERROR - Byte 36 in the "WD" test response message contains the internal temperature failure flag.

FATAL ERROR - Byte 37 in the "WD" test response message contains the fatal error flag..

RAM CHECK - Byte 38 in the "WD" test response message contains the results of the RAM test. In the RAM test, the processor writes known values to selected addresses in RAM and then reads them back.

ROM CHECK - Byte 39 in the "WD" test response message contains the results of the ROM test. In the ROM test, the processor reads each address in ROM and calculates the checksum. The last address in ROM contains the two's compliment of the checksum of all other ROM locations. When this value is added into the checksum of the rest of the ROM, a result of zero should be obtained.

POWER SUPPLY GROUND - Bytes 13-16 in the "WD" test response message report the potential difference between the ground terminal at the +5 volt supply and the ground terminal at the processor circuit card located in the wind direction assembly.

POWER SUPPLY +5.0 VOLTS - Bytes 17-20 in the "WD" test response message report the voltage of the +5V power supply.

ENCLOSURE TEMP - Bytes 21-24 in the "WD" test response message report the enclosure temperature in degrees F.

EXTERNAL TEMP - Bytes 26-29 in the "WD" test response message could be used to report the speed head temperature, in degrees F. Since the speed head temperature is not measured this is always set to +000.

DIAG DATA CHECK - Bytes 40-41 in the "WD" test response message contains the simulated checksum. This test sums the values received for sensor ID, sensor status and wind direction and speed and compares it to a checksum value received from the wind sensor.

5.3.6.8   **Interrelationship.** - Refer to paragraph 5.3.1.8 for interrelationship description.

5.3.7 **Temperature/Dewpoint Sensor Diagnostic Function**.

The Temperature/Dewpoint Sensor Diagnostic Function Display indicates the status of the 1088 or HO83 (site configuration dependant) Temperature and Dewpoint Sensor. This function also permits the Technician to perform on-demand diagnostic testing. Refer to figure 5-10 for the Temperature/Dewpoint (1088) Page and the Temperature/Dewpoint (1088) Page Help Screen, and figure 5-11 for the Temperature/Dewpoint (HO83) Page and the Temperature/Dewpoint (HO83) Page Help Screen.

5.3.7.1   **Execution Options.** -Refer to paragraph 5.3.1.2 for execution options.

5.3.7.2   **User Inputs.** - There are no user inputs to the Temperature/Dewpoint Sensor Diagnostic Function.

5.3.7.3   **System Inputs.** - Refer to paragraph 5.3.1.3 for system inputs processing. System inputs to the Temperature/Dewpoint Sensor Diagnostic Function are:

SIMULATED TEMP DATA 0 DEG C (1088) - This status field contains a symbol indicating the status of the measurement circuitry when a simulated temperature of 0 degrees C is used in place of the ambient temperature measurement. The input to the status field is based on the output of the simulated ambient temperature data function test performed within the sensor. The test switches a precision resistor into the 1088's measurement path to provide the simulated data. The system evaluates the sensor's output to determine the output status symbol to be displayed.

SIMULATED TEMP DATA 5O DEG C (1088) - This status field contains a symbol indicating the status of the measurement circuitry when a simulated temperature of 50 degrees C is used in place the ambient temperature measurement. The input to the status field is based on the output of the simulated ambient temperature data function test performed within the sensor. The test switches in a precision resistor into the 1088's measurement path provide the simulated data.

```
   1:21:56 07/04/96 1621Z                                          ANYTOWN AIRPORT
     +)))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))),
   *                                                                                *
   *                                                                                *
   * SIMULATED TEMP DATA  0 DEG C         32.00   P             TEMP QUALITY    P    *
   * SIMULATED TEMP DATA 50 DEG C        122.00   P             DEW QUALITY     P    *
   * SIMULATED DEWPOINT DATA  0 DEG C     32.20   P             REPORT PROCESS  N    *
   * SIMULATED DEWPOINT DATA 50 DEG C    122.10   P             SENSOR RESPONSE T    *
   * ASPIRATOR FAN                                 P                                 *
   *  0 DEGREE C CALIBRATION                       P                                 *
   * 50 DEGREE C CALIBRATION                       P                                 *
   * REALTIME DIAGNOSTICS                          P                                 *
   * MIRROR SERVO                                  P                                 *
   * CRITICAL VOLTAGE                              P                                 *
   * DIRTY MIRROR                                  P                                 *
   * SIMULATED DATA ERROR                          P                                 *
   *                                                                 1088           *
    *                                                           +)))))0)))))0)))))1
   *                                                           *PRINT*CLEAR*    *
    *                                                          /)))))3)))))3)))))1
   *                                                           *TEST *     *    *
    *                                                          /)))))3)))))3)))))1
   *                                                           *EXIT *BACK *    *
     .)))))))))))))))))))))))))))))))))))))))))))))))))))))))))2)))))2)))))2)))))-
```

```
  11:21:56 07/04/96 1621Z                                          ANYTOWN AIRPORT
     +))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))),
  *PRINT - PRINT THE CURRENT SCREEN ON THE ASOS PRINTER                             *
  *                                                                                 *
  *CLEAR - CLEAR ALL COUNTERS FOR PASS/FAIL FIELDS ON THIS PAGE AND                 *
  *ALL PAGES SUMMARIZED BY THIS PAGE                                                *
  *                                                                                 *
  *                                                                                 *
  *TEST  - RUN EXTENDED DIAGNOSTIC TEST(S) ON THE SELECTED DEVICE                   *
  *****  W A R N I N G  **** THIS TEST MAY CAUSE TEMPORARY LOSS OF DATA             *
  *                                                                                 *
  *                                                                                 *
  *                                                                                 *
  *                                                                                 *
  *                                                                                 *
  *                                                                                 *
  *EXIT  - RETURN THE USER TO THE ONE-MINUTE SCREEN                                 *
  *                                                                                 *
  *BACK  - RETURN THE USER TO THE PREVIOUS SCREEN / KEYPAD                          *
  *                                                                                 *
  *                                                                                 *
  *                  PRESS HELP OR KEYPAD 0 TO EXIT HELP                            *
  *                                                                                 *
     .))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))-
```

Figure 5-10. Temperature/Dewpoint (1088) Page and System Help Screen

```
   11:21:56 07/04/96 1621Z                                         ANYTOWN AIRPORT
      +))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))),
   *                                                                              *
   *                                                                              *
   *                                                                              *
   *   THERMAL RUNAWAY     *                       TEMP QUALITY      *            *
   *                                               DEW QUALITY       *            *
   *                                               REPORT PROCESS    Y            *
   *                                               SENSOR RESPONSE   *            *
   *                                                                              *
   *                                                                              *
   *                                                                              *
   *                                                                              *
   *                                                                              *
   *                                                                              *
   *                                                                              *
   *                                                   HO83                       *
    *                                                +)))))0)))))0)))))1
   *                                                *PRINT*CLEAR*      *
    *                                               /)))))3)))))3)))))1
   *                                                *TEST *      *      *
    *                                               /)))))3)))))3)))))1
   *                                                *EXIT *BACK *      *
      .)))))))))))))))))))))))))))))))))))))))))))))))))))))))))2)))))2)))))2)))))-




   11:21:56 07/04/96 1621Z                                         ANYTOWN AIRPORT
      +)))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))),
   *PRINT - PRINT THE CURRENT SCREEN ON THE ASOS PRINTER                          *
   *                                                                              *
   *CLEAR - CLEAR ALL COUNTERS FOR PASS/FAIL FIELDS ON THIS PAGE AND              *
   *ALL PAGES SUMMARIZED BY THIS PAGE                                             *
   *                                                                              *
   *                                                                              *
   *TEST  - RUN EXTENDED DIAGNOSTIC TEST(S) ON THE SELECTED DEVICE                *
   ***** W A R N I N G **** THIS TEST MAY CAUSE TEMPORARY LOSS OF DATA            *
   *                                                                              *
   *                                                                              *
   *                                                                              *
   *                                                                              *
   *                                                                              *
   *                                                                              *
   *EXIT  - RETURN THE USER TO THE ONE-MINUTE SCREEN                              *
   *                                                                              *
   *BACK  - RETURN THE USER TO THE PREVIOUS SCREEN / KEYPAD                       *
   *                                                                              *
   *                                                                              *
   *                      PRESS HELP OR KEYPAD 0 TO EXIT HELP                     *
   *                                                                              *
      .)))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))-
```

Figure 5-11. Temperature/Dewpoint (HO83) Page and System Help Screen

SIMULATED DEWPOINT DATA 0 DEG C (1088) - This status field contains a symbol indicating the status of the measurement circuitry when a simulated dewpoint of 0 degrees C is used in place of the ambient dewpoint temperature measurement. The input of the status field is based on the output of the simulated ambient dewpoint data function test performed within the sensor. The test switches in a precision resistor into the 1088's measurement path provide the simulated data. The system evaluates the sensor's output to determine the output status symbol to be displayed.

SIMULATED DEWPOINT DATA 50 DEG C (1088) - This status field contains a symbol indicating the status of the measurement circuitry when a simulated dewpoint of 50 degrees C is used in place of the ambient dewpoint temperature measurement. The input to the status field is based on the output of the simulated ambient dewpoint data function test performed within the sensor. The test switches in a precision resistor into the 1088's measurement path to provide the simulated data. The system evaluates the sensor's output to determine the output status symbol to be displayed.

ASPIRATOR FAN (1088) - The status field for the aspirator fan test contains a symbol indicating the status of the aspirator fan. The input to the status field is based on an airflow check within the aspirator unit. The information (0-Pass, 1-Fail) is contained in bit 2 of the Temperature/Dewpoint sensor's response to a T3 request. The system evaluates this information to determine the output status to be displayed.

0 DEG C CALIBRATION (1088) - The status field for the calibration test contains a symbol indicating the results of the internal 0-degree C calibration check. The input to the status field is based on simulated temperature and temperature dew point resistors which are used as references. The information (0-Pass, 1-Fail) is contained in bit 3 of the Temperature/Dewpoint sensor's response to a T3 request. The system evaluates this information and determines the output status to be displayed.

50 DEG C CALIBRATION (1088) - The status field for the calibration test contains a symbol indicating the results of the internal 50-degree C calibration check. The input to the status field is based on simulated temperature and temperature dew point resistors which are used as references. The information (0-Pass, 1-Fail) is contained in bit 4 of the Temperature/Dewpoint sensor's response to a T3 request. The system evaluates this information to determine the output status to be displayed.

REALTIME DIAGNOSTIC (1088) - The status field for the real-time diagnostic test contains a symbol indicating whether the system is performing a real-time diagnostic (system diagnostic). The input to the status field is based on information (0-Pass, 1-Fail) contained in bit 5 (pertaining to real-time diagnostic) of the Temperature/Dewpoint sensor's response to a T3 request. The system evaluates this information to determine the output status to be displayed.

MIRROR SERVO (1088) - The status field for the mirror servo function test contains a symbol indicating the status of the mirror servo control circuitry and the current position of the test/operate mode switch in the 1088. The inputs to the status field are based on information (0-Pass, 1-Fail) contained in bit 7 of the Temperature/Dewpoint sensor's response to a T3 request. The system evaluates this information to determine the output status to be displayed

CRITICAL VOLTAGE (1088) - The status field for the critical voltage function test contains a symbol indicating if the power supplies within 1088 are in tolerance. The inputs to the status field are based on information (0-Pass, 1-Fail) contained in bit 8 of the Temperature/Dewpoint sensor's response to a T3 request. The system evaluates this information to determine the output status to be displayed.

DIRTY MIRROR (1088) - The status field for the dirty mirror function test contains a symbol indicating the status of the dew point mirror in the aspirator. The inputs to the status field are based on information (0-Pass, 1-Fail) contained in bit 9 of the Temperature/Dewpoint sensor's response to a T3 request. The system evaluates

this information to determine the output status to be displayed.

SIMULATED DATA ERROR (1088) - The status field for the simulated data error function test contains a symbol indicating the status of the simulated data error function. The inputs to the status field are based on the inputs to the status field of the simulated 0 and 50 degrees temperature and dewpoint status test. The system evaluates this information to determine the output status to be displayed. If the simulated temperatures are invalid in format then SIMULATED DATA ERROR will report a failure.

THERMAL RUNAWAY (HO83) - The status field for the THERMAL RUNAWAY portion of the Temperature/Dewpoint sensor contains a symbol indicating the status of the THERMAL RUNAWAY test. The inputs for this status field are based on bit 7 of byte 1 in HO83 words.

TEMP QUALITY (1088/HO83) - The Temperature Quality status field indicates whether or not temperature data is logically correct. The inputs to the status field are based on a comparison of data received from the sensor and the standard specified in the data quality monitoring algorithm. The validity of data determines the output status.

DEW QUALITY (1088/HO83) - The Dewpoint Quality status field indicates whether or not dewpoint data is logically correct. The inputs to the status field are based on a comparison of data received from the sensor and the standard specified in the data quality monitoring algorithm. The validity of data determines the output status.

REPORT PROCESS (1088/HO83) - Refer to paragraph 5.3.1.3 for system input processing.

SENSOR RESPONSE (1088/HO83) - Refer to paragraph 5.3.1.3 system input processing.

5.3.7.4   **Execution**. -Refer to paragraph 5.3.1.4 for execution procedures.

5.3.7.5   **Termination.** - Refer to paragraph 5.3.1.5 for termination procedure.

5.3.7.6   **Restart.** - Refer to paragraph 5.3.1.6 for restart procedures.

5.3.7.7   **Outputs.** - Refer to paragraph 5.3.1.7 for output processing. Outputs of the Temperature/Dewpoint Sensor Diagnostic Function are:

SIMULATED TEMP DATA O DEG C (1088) - This status field contains a symbol indicating the status of the measurement circuitry when a simulated temperature of 0 degrees C is used in place of the ambient temperature measurement. The status field may indicate a P (Pass), or an F (Fail) and the associated fail count. The status field indicates a P if the 1088 system returns a reading of 31.5 - 32.5 degrees F. The status field indicates an F if the 1088 returns a reading of anything outside of the passing range.

SIMULATED TEMP DATA 5O DEG C (1088) - This status field contains a symbol indicating the status of the measurement circuitry when a simulated temperature of 50 degrees C is used in place of the ambient temperature measurement. The status field may indicate a P (Pass), or an F (Fail) and the associated fail count. The status field indicates a P if the 1088 system returns a reading of 121.5 - 122.5 degrees F. The status field indicates an F if the 1088 returns a reading of anything outside of the passing range.

SIMULATED DEWPOINT DATA 0 DEG C (1088) - This status field contains a symbol indicating the status of the measurement circuitry when a simulated dewpoint of 0 degrees C is used in place of the ambient dewpoint temperature measurement. The status field may indicate a P (Pass), or an F (Fail) and the associated fail count. The status field indicates a P if the 1088 system returns a reading of 31.5 - 32.5 degrees F. The status field indicates an F if the 1088 returns a reading of anything outside of the passing range.

SIMULATED DEWPOINT DATA 50 DEG C (1088) - This status field contains a symbol indicating the status of the measurement circuitry when a simulated dewpoint of 50 degrees C is used in place of the ambient dewpoint temperature measurement.   The status field may indicate a P (Pass), or an F (Fail) and the associated fail count. The status field indicates a P if the 1088 system returns a reading of 121.5 - 122.5 degrees F. The status field indicates an F if the 1088 returns a reading of anything outside of the passing range.

ASPIRATOR FAN (1088) - The status field for the aspirator fan test contains a symbol indicating the status of the aspirator fan. The input to the status field is based on an airflow check within the aspirator unit.

0 DEG C CALIBRATION (1088) - The status field for the calibration test contains a symbol indicating the results of the internal 0-degree C calibration check. The status field may indicate a P (Pass), or an F (Fail) and the associated fail count.

50 DEG C CALIBRATION (1088) - The status field for the calibration test contains a symbol indicating the results of the internal 50-degree C calibration check for 50 degrees.

REALTIME DIAGNOSTICS (1088) - The status field for the real-time diagnostic test contains a symbol indicating whether the system is performing a real-time diagnostic (system diagnostic). The status field may indicate an P (Pass) or an F (Fail) and the associated fail count.

MIRROR SERVO (1088) - The status field for the mirror servo function test contains a symbol indicating the status of the mirror servo control circuitry and the current position of the test/operate mode switch in the 1088. The status field may indicate a P (Pass), or an F (Fail) and the associated fail count.

CRITICAL VOLTAGE (1088) - The status field for the critical voltage function test contains a symbol indicating if the power supplies within 1088 are in tolerance. The status field may indicate a P (Pass), or an F (Fail) and the associated fail count. The status field indicates a P if all the power supplies within the 1088 are within tolerance. The status field indicates an F if one of the power supplies within the 1088 is out of tolerance.

DIRTY MIRROR (1088) - The status field for the dirty mirror function test contains a symbol indicating the status of the dewpoint mirror in the aspirator. The status field may indicate a P (Pass), or an F (Fail) and the associated fail count. The status field indicates a P if the dial reading indicates a reading outside of 450 and 500. The status field indicates an F if the dial reading indicates a reading between 450 and 500.

SIMULATED DATA ERROR (1088) - The status field for the simulated data error function test contains a symbol indicating the status of the simulated data error function. The status field may indicate a P (Pass), or an F (Fail) and the associated fail count. The status field indicates a P if the test for simulated 0 and 50 degrees temperature and dewpoint status indicates a P. The status field indicates an F if any of the tests for simulated 0 and 50 degrees temperature and dewpoint status indicates an F. For example if Simulated Temperatures are invalid in format then SIMULATED DATA ERROR will indicate a failure.

THERMAL RUNAWAY (HO83) - The status field for the THERMAL RUNAWAY portion of the Temperature/Dewpoint sensor contains a symbol indicating the status of the THERMAL RUNAWAY test. The inputs for this status field are based on bit 7 of byte 1 in HO83 words. The status field may indicate a P (Pass) or an F (Fail) and the associated fail count.

TEMP QUALITY (1088/HO83) - status field indicates whether or not the temperature data being received from the sensor is valid (logically correct) when compared to the standard specified in the data quality monitoring algorithm. The status field may indicate a P (Pass), or an F (Fail) and the associated fail count.

DEW QUALITY (1088/HO83) - status field indicates whether or not the dewpoint data being received from the

sensor is valid (logically correct) when compared to the standard specified in the data quality monitoring algorithm. The status field may indicate a P (Pass), or an F (Fail) and the associated fail count.

REPORT PROCESS (1088/HO83) - The status field indicates the present operating status of the sensor, "Y" (yes) sensor is delivering data to the system, "N" (no) sensor is off-line and not delivering data to the system, or "*" (initial system check in progress). The report process field can be set by the Observer on the review sensor configuration page. The status field may indicate a P (Pass), or an F (Fail) and the associated fail count.

SENSOR RESPONSE (1088/HO83) - status field indicates whether or not the sensor has responded to a data request from the sensor processing program or the self-test program. The status field may indicate a P (Pass), or an F (Fail) and the associated fail count.

5.3.7.8   **Interrelationship.** - Refer to paragraph 5.3.1.8 for interrelationship description.

5.3.8 **Visibility Sensor Diagnostic Function.**

The Visibility Sensor Diagnostic Function display indicates the status of the Visibility Sensor. The display also presents a list of discrete sensor parameters and the value and/or status of those parameters. The Technician may initiate a complete sensor self-test by pressing the TEST key. Refer to figure 5-12 for the Visibility Sensor #1 Page and the Visibility Sensor #1 Page Help Screen.

5.3.8.1   **Execution Options.** -Refer to paragraph 5.3.1.2 for execution options.

5.3.8.2   **User Inputs.** - There are no user inputs to the Visibility Sensor Diagnostic Function.

5.3.8.3   **System Inputs.** - Refer to paragraph 5.3.1.3 for system inputs processing. System inputs to the Visibility Sensor Diagnostic Function are:

The system sends a "V2" command, simulation data, and a "VG" command, extended diagnostics, once every minute to the sensor to initiate a test of sensor parameters. Refer to the visibility ICD for additional information on the sensor diagnostics. The sensor responds to the system software with a 15 character message from the "V2" test and a 93 character message from the "VG" test. When the TEST key is pressed, the sensor PASS/FAIL locations are overwritten with "T". The next time the "V2" and "VG" commands are sent, the PASS/FAIL locations are updated appropriately.

VIS QUALITY - The Visibility Quality status field indicates whether or not visibility data is logically correct. The inputs to the status field are based on a comparison of data received from the sensor and the standard specified in the data quality monitoring algorithm. The validity of data determines the output status.

PHOTO QUALITY - The Photometer Quality status field indicates whether or not photometer data is logically correct. The inputs to the status field are based on a comparison of data received from the sensor and the standard specified in the data quality monitoring algorithm. The validity of data determines the output status.

```
  11:21:56 07/04/96 1621Z                                    ANYTOWN AIRPORT
     +))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))),
 * SENSOR STATUS                        P         DAY/NIGHT ELEC HEATER      P    *
 * SIMULATED EXT COEFF         12.34 P            ENCLOSURE ELEC HEATER      P    *
 * SIMULATED PHOTO STATUS          D P            INSIDE AMBIENT TEMP    31.3 P   *
 * SIMULATED DATA SUM             E2 P            CHECKSUM                 F1 P   *
 * ADD CHECK                            P                                         *
 * RAM CHECK                            P         VIS QUALITY                P    *
 * ROM CHECK                            P         PHOTO QUALITY              P    *
 * EEPROM CHECK                         P         REPORT PROCESS             Y    *
 * RECEIVER OP STATUS                   P         SENSOR RESPONSE            P    *
 * TRANSMITTER OP STATUS                P                                         *
 * DAY/NIGHT OP STATUS                  P                                         *
 * HEATER THERMOSTAT         ON/OFF P                                             *
 * RCVR HOOD HEATER                     P                                         *
 * XMTR HOOD HEATER                     P                                         *
 * RCVR WINDOW HEATER                   P                                         *
 * XMTR WINDOW HEATER                   P                             VISIBILITY #N *
  * DAY/NIGHT WINDOW HEATER          P                          +)))))0)))))0)))))1
 * RCVR ELEC HEATER                     P                        *PRINT*CLEAR*    *
  * XMTR ELEC HEATER                    P                        /)))))3)))))3)))))1
 *                                                               *TEST *     *    *
  *                                                              /)))))3)))))3)))))1
 *                                                               *EXIT *BACK *    *
     .)))))))))))))))))))))))))))))))))))))))))))))))))))))))))))2)))))2)))))2)))))-
```

```
  11:21:56 07/04/96 1621Z                                    ANYTOWN AIRPORT
     +))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))),
 *PRINT - PRINT THE CURRENT SCREEN ON THE ASOS PRINTER                          *
 *                                                                              *
 *CLEAR - CLEAR ALL COUNTERS FOR PASS/FAIL FIELDS ON THIS PAGE AND             *
 *ALL PAGES SUMMARIZED BY THIS PAGE                                            *
 *                                                                              *
 *                                                                              *
 *TEST  - RUN EXTENDED DIAGNOSTIC TEST(S) ON THE SELECTED DEVICE               *
 *****  W A R N I N G  **** THIS TEST MAY CAUSE TEMPORARY LOSS OF DATA         *
 *                                                                              *
 *                                                                              *
 *                                                                              *
 *                                                                              *
 *EXIT  - RETURN THE USER TO THE ONE-MINUTE SCREEN                             *
 *                                                                              *
 *BACK  - RETURN THE USER TO THE PREVIOUS SCREEN / KEYPAD                      *
 *                                                                              *
 *                                                                              *
 *                                                                              *
 *                                                                              *
 *                                                                              *
 *                  PRESS HELP OR KEYPAD 0 TO EXIT HELP                        *
 *                                                                              *
     .))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))-
```

Figure 5-12. Visibility Sensor Page and System Help Screen

REPORT PROCESS - The status field indicates the present operating status of the sensor, Y (Yes) sensor is delivering data to the system, N (No) sensor is off-line and not delivering data to the system, or * (initial system check in progress).The report process field can be set by the Observer on the review sensor configuration page.

SENSOR RESPONSE - The Sensor Response status field contains a symbol indicating the status of the sensor. The inputs to the status field are based on a response by the sensor. The response determines the output status.

5.3.8.4   **Execution.** - Refer to paragraph 5.3.1.4 for execution options.

5.3.8.5   **Termination.** - Refer to paragraph 5.3.1.5 for the termination procedure.

5.3.8.6   **Restart.** - Refer to paragraph 5.3.1.6 for the restart procedures.

5.3.8.7   **Outputs.** - Refer to paragraph 5.3.1.7 for outputs processing. Outputs of the Visibility Sensor Diagnostic Function are:

SENSOR STATUS - The status field contains a symbol indicating the status of the Visibility Sensor. Four potential symbols appear in this field: Refer to paragraph 5.3.1.7.

SIMULATED EXT COEFF - Bytes 6-10 in the "V2" test response message represent the simulated extinction coefficient. The simulated extinction coefficient consists of five "floating" characters including the number and the decimal point. The simulated extinction coefficient value is "12.34" / km.

SIMULATED PHOTO STATUS - Byte 11 in the "V2" test response message contains the status of the simulated photometer reading.

SIMULATED DATA SUM - Bytes 12-13 in the "V2" test response message contains checksum.

ADD CHECK - Byte 14 in the "VG" test response message contains the result of the address self test. In this test, the processor writes a number to an address. Once all locations are written to, the processor reads back the data and compares the stored data to the address.

RAM CHECK - Byte 15 in the "VG" test response message contains the results of the RAM test. In the RAM test, the processor writes known values to selected addresses in RAM and then reads them back.

ROM CHECK - Byte 16 in the "VG" test response message contains the results of the ROM test. In the ROM test, the processor reads each address in ROM and calculates the checksum. The last address in ROM contains the two's compliment of the checksum of all other ROM locations. When this value is added into the checksum of the rest of the ROM, a result of zero should be obtained..

EEPROM CHECK - Byte 17 in the "VG" test response message contains the results of the EEPROM test. In the EEPROM test, the processor reads each address in EEPROM and calculates the checksum. The last address in EEPROM contains the two's compliment of the checksum of all other EEPROM locations. When this value is added into the checksum of the rest of the EEPROM, a result of zero should be obtained. When a re-calibration occurs, the values of the EEPROM are changed. The visibility sensor will automatically write the proper two's complement value into the last location of EEPROM.

RECEIVER OP STATUS - Byte 19 contains the current operational status of the receiver FRU. The general operation of the receiver is continuously monitored as a part of taking visibility measurements.

TRANSMITTER OP STATUS - Byte 20 contains the current operational status of the transmitter FRU. The

number of flashes is continuously monitored as a part of taking visibility measurements, and there should be 2 flashes per second.

DAY/NIGHT OP STATUS - Byte 21 contains the current operational status of the Day/Night FRU. A P (Pass) in the status field indicates the operational status is fine.

HEATER THERMOSTAT STATUS - Byte 22 contains the current operational status of the heater thermostat. The simulated heater thermostat status is "ON" indicating that the thermostat diagnostics are running. If the ambient one minute temperature goes below 25 degrees for a period of 30 minutes, ASOS will check the visibility sensor to determine if diagnostics are running. This is done by checking byte 22 of the response to a VG command (1=HEATER_DIAG_ON, 0=HEATER_DIAG_OFF).

RCVR HOOD HEATER - Byte 23 contains the status of the hood heater.

XMTR HOOD HEATER - Byte 24 contains the status of the transmitter hood heater.

RCVR WINDOW HEATER - Byte 26 contains the status of the receiver window heater.

XMTR WINDOW HEATER - Byte 27 contains the status of the transmitter window heater.

DAY/NIGHT WINDOW HEATER - Byte 28 contains the status of the Day/Night window heater.

RCVR ELEC HEATER - Byte 30 contains the status of the receiver electronics heater.

XMTR ELEC HEATER - Byte 31 contains the status of the transmitter electronics heater.

DAY/NIGHT ELEC HEATER - Byte 32 contains the status of the Day/Night electronics heater.

ENCLOSURE ELEC HEATER - Byte 33 contains the status of the electronics enclosure heater.

INSIDE AMBIENT TEMPERATURE - Bytes 35-39 in the "VG" test response message report the temperature, in degrees C, inside the controller enclosure. The allowable range is 20 - 70 degrees C.

VIS QUALITY - The status field indicates whether or not the visibility data being received from the sensor is valid (logically correct) when compared to the standard specified in the data quality monitoring algorithm. Refer to paragraph 5.3.1.7.

PHOTO QUALITY - The status field indicates whether or not the photometer data being received from the sensor is valid (logically correct) when compared to the standard specified in the data quality monitoring algorithm. Refer to paragraph 5.3.1.7.

REPORT PROCESS - Refer to paragraph 5.3.1.7.

SENSOR RESPONSE - The status field indicates whether or not the sensor has responded to a data request from the sensor processing program or the self-test program.

5.3.8.8   **Interrelationship.** - Refer to paragraph 5.3.1.8 for interrelationship description.

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  11:21:56 07/04/96 1621Z                                     ANYTOWN AIRPORT
    +))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))),
  *                                                                          *
  *                                                                          *
  *                                         DATA QUALITY        F            *
  *                                                                          *
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  *                                                                          *
  *                                                                          *
  *                                                                          *
  *                                                                          *
  *                                                                          *
  *                                                      TIPPING BUCKET      *
   *                                                    +)))))0)))))0)))))1
  *                                                    *PRINT*CLEAR*      *
   *                                                    /)))))3)))))3)))))1
  *                                                    *     *     *     *
   *                                                    /)))))3)))))3)))))1
  *                                                    *EXIT *BACK *      *
    .)))))))))))))))))))))))))))))))))))))))))))))))))))))))2)))))2)))))2)))))-
```

```
  11:21:56 07/04/96 1621Z                                     ANYTOWN AIRPORT
    +)))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))),
  *PRINT - PRINT THE CURRENT SCREEN ON THE ASOS PRINTER                       *
  *                                                                           *
  *CLEAR - CLEAR ALL COUNTERS FOR PASS/FAIL FIELDS ON THIS PAGE AND           *
  *ALL PAGES SUMMARIZED BY THIS PAGE                                          *
  *                                                                           *
  *                                                                           *
  *                                                                           *
  *                                                                           *
  *                                                                           *
  *                                                                           *
  *                                                                           *
  *                                                                           *
  *                                                                           *
  *                                                                           *
  *                                                                           *
  *EXIT  - RETURN THE USER TO THE ONE-MINUTE SCREEN                           *
  *                                                                           *
  *BACK  - RETURN THE USER TO THE PREVIOUS SCREEN / KEYPAD                    *
  *                                                                           *
  *                                                                           *
  *                      PRESS HELP OR KEYPAD 0 TO EXIT HELP                  *
  *                                                                           *
    .)))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))-
```

Figure 5-13. Tipping Bucket Sensor Page and System Help Screen

5.3.9 **Tipping Bucket Diagnostic Function.**

The Tipping Bucket Diagnostic Function display indicates the status of the Tipping Bucket Data Quality. Refer to figure 5-13 for the Tipping Bucket Sensor Page and the Tipping Bucket Sensor Page Help Screen.

5.3.9.1 **Execution Options.** - Refer to paragraph 5.3.1.2 for execution options.

5.3.9.2 **User Inputs**. - There are no user inputs to the Tipping Bucket Sensor Diagnostic Function.

5.3.9.3 **System Inputs**. - Refer to paragraph 5.3.1.3 for the system input processing.

5.3.9.4 **Execution.** - Refer to paragraph 5.3.1.4 for execution procedures.

5.3.9.5 **Termination.** - Refer to paragraph 5.3.1.5 for the termination procedure.

5.3.9.6 **Restart.** - Refer to paragraph 5.3.1.6 for restart procedures.

5.3.9.7 **Outputs.** - Refer to paragraph 5.3.1.7 for output processing.

5.3.9.8 **Interrelationship.** - Refer to paragraph 5.3.1.8 for interrelationship description.

5.3.10   **Ceilometer #1, #2, #3 Sensor Diagnostic Function.**

The Ceilometer #1, #2, #3 Sensor Diagnostic Function displays the status of a selected ASOS Ceilometer and provides for direct dialogue with the Ceilometer device. Direct dialogue permits changes to Ceilometer parameters and in-depth status information. Refer to figure 5-14 for the Ceilometer Sensor Page and the Ceilometer Sensor Page Help Screen.

5.3.10.1 **Execution Options.** - Refer to paragraph 5.3.1.2 for execution options.

5.3.10.2 **User Inputs.** - User inputs to the Ceilometer Diagnostic function are:

ENTER COMMAND - This field is used for entering commands for the Ceilometer device. Command entry is enabled with the DIALG key. Refer to figure 5-15 for the Ceilometer Sensor Dialogue Page and the Ceilometer Sensor Dialogue Page Help Screen, respectively. This feature provides for obtaining status and setting various parameters in the Ceilometer device. Refer to the ASOS Site Technical Manual for an explanation of possible commands and device responses including error status.

5.3.10.3 **System Inputs.** - Refer to paragraph 5.3.1.3 for system inputs processing. System inputs to the Ceilometer Diagnostic Function are:

Status and response information from the Ceilometer device is received every 30 seconds and is taken from the status data lines 1 and 2, as described in the Site Technical Manual for Ceilometer CT-12K and refer to paragraph 5.3.10.4. This information is used to update the following indicators:

```
 11:21:56 07/04/96 1621Z                                          ANYTOWN AIRPORT
    +)))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))),
 * HDW            P                  DATA QUALITY          P         *
 * SUP. VOL.      P                  REPORT PROCESS        Y         *
 * LASER PWR      P                  SENSOR RESPONSE       P         *
 * TEMP           P                                                  *
 * SLR SHTTR    0                                                    *
 * BLOWER       0                                                    *
 * HTR          0                                                    *
 * PUL FREQ     6                                                    *
 * GAIN         2                                                    *
 *                                                                   *
 *                                                                   *
 *                                                                   *
 *                                                                   *
 *                                                CEILOMETER #N   *
  *                                               +)))))0)))))0)))))1
 *                                                *PRINT*CLEAR*DIALG*
  *                                               /)))))3)))))3)))))1
 *                                                *TEST *     *     *
  *                                               /)))))3)))))3)))))1
 *                                                *EXIT *BACK *     *
    .)))))))))))))))))))))))))))))))))))))))))))))))))))))2)))))2)))))2)))))-
```

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 11:21:56 07/04/96 1621Z                                          ANYTOWN AIRPORT
    +)))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))),
 *PRINT - PRINT THE CURRENT SCREEN ON THE ASOS PRINTER                         *
 *                                                                             *
 *CLEAR - CLEAR ALL COUNTERS FOR PASS/FAIL FIELDS ON THIS PAGE AND             *
 *ALL PAGES SUMMARIZED BY THIS PAGE                                            *
 *DIALG - ALLOWS THE USER TO PERFORM DIRECT DIALOGUE WITH SENSOR               *
 *                                                                             *
 *TEST  - RUN EXTENDED DIAGNOSTIC TEST(S) ON THE SELECTED DEVICE               *
 *****  W A R N I N G  ****  THIS TEST MAY CAUSE TEMPORARY LOSS OF DATA        *
 *                                                                             *
 *                                                                             *
 *                                                                             *
 *                                                                             *
 *EXIT  - RETURN THE USER TO THE ONE-MINUTE SCREEN                             *
 *                                                                             *
 *BACK  - RETURN THE USER TO THE PREVIOUS SCREEN / KEYPAD                      *
 *                                                                             *
 *                                                                             *
 *                                                                             *
 *                                                                             *
 *              PRESS HELP OR KEYPAD 0 TO EXIT HELP                            *
 *                                                                             *
    .))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))-
```

Figure 5-14. Ceilometer #1, #2, #3 Sensor Page and System Help Screen

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  11:21:56 07/04/96 1621Z                                      ANYTOWN AIRPORT
     +))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))),
  *                                                                             *
  *                                                                             *
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  *                                                                             *
  *                                                                             *
  *                                                                             *
  *                                                                             *
  *                                                                             *
  *                                                        CEILOMETER #N   *
   *                                                      +)))))0)))))0)))))1
  *                                                      *PRINT*      *   *
   *                                                      /)))))3)))))3)))))1
  * ENTER COMMAND                       PROCESSING        *     *    *    *
   *                                                      /)))))3)))))3)))))1
  *                                                      *EXIT *BACK *    *
     .)))))))))))))))))))))))))))))))))))))))))))))))))))))))2)))))2)))))2)))))-
```

```
  11:21:56 07/04/96 1621Z                                      ANYTOWN AIRPORT
     +)))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))),
  *PRINT - PRINT THE CURRENT SCREEN ON THE ASOS PRINTER                          *
  *                                                                              *
  *                                                                              *
  *                                                                              *
  *                                                                              *
  *                                                                              *
  *                                                                              *
  *                                                                              *
  *                                                                              *
  *                                                                              *
  *                                                                              *
  *                                                                              *
  *                                                                              *
  *                                                                              *
  *                                                                              *
  *                                                                              *
  *EXIT  - RETURN THE USER TO THE ONE-MINUTE SCREEN                              *
  *                                                                              *
  *BACK  - RETURN THE USER TO THE PREVIOUS SCREEN / KEYPAD                       *
  *                                                                              *
  *                                                                              *
  *                 PRESS HELP OR KEYPAD 0 TO EXIT HELP                          *
  *                                                                              *
     .)))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))-
```

Figure 5-15. Ceilometer Sensor Dialogue Page and System Help Screen

Indicator

HDW	Hardware Alarm (off)
SUP. VOL.	Supply Voltage Alarm (off)
LASER PWR	Laser Power Low (false)
TEMP	Temperature Alarm (off)
SLR SHTTR	0 - 1
BLOWER	0 - 1
HTR	0 - 1
PUL FREQ	0 - 7
GAIN	0 - 2

NOTE: Refer to the ASOS Ceilometer Sensor ICD for an explanation of possible commands and sensor responses including error status.

5.3.10.4   **Execution.** -Refer to paragraph.5.3.1.4 for execution procedures.

5.3.10.5   **Termination.** - Refer to paragraph 5.3.1.5 for the termination procedure.

5.3.10.6   **Restart.** - Refer to 5.3.1.6 for restart procedures.

5.3.10.7   **Outputs.** - Refer to paragraph 5.3.1.7 for outputs processing. Outputs of the Ceilometer Diagnostic Function are:

DIRECT DIALOGUE MESSAGE RECEIVED - Status and response information from a Ceilometer sensor. Refer to the ASOS Ceilometer Sensor ICD for an explanation of possible commands and sensor responses including error status.

Ceilometer Status Indicators - Ceilometer Status is received and updated every 30 seconds during normal operations. This status is taken from the status data lines 1 and 2 as described in the Site Technical Manual (Ceilometer CT-12K).

Indicator

HDW	Hardware Alarm (off)
SUP. VOL.	Supply Voltage Alarm (off)
LASER PWR	Laser Power Low (false)
TEMP	Temperature Alarm (off)
SLR SHTTR	0 - 1
BLOWER	0 - 1
HTR	0 - 1
PUL FREQ	0 - 7
GAIN	0 - 2

5.3.10.8   **Interrelationship.** - Refer to paragraph 5.3.1.8 for interrelationship description.

5.3.11   **Snow Depth Sensor Diagnostic Function.**

The Snow Depth Sensor Diagnostic Function will display the status of the Snow Depth Sensor. Refer to figure 5-16 for the Snow Depth Sensor Page and the Snow Depth Sensor Page Help Screen.

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 11:21:56 07/04/96 1621Z                                      ANYTOWN AIRPORT
    +))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))),
 *                                                                               *
 *                                           DATA QUALITY        *     *
 *                                           REPORT PROCESS      *     *
 *                                           SENSOR RESPONSE     *     *
 *                                                                               *
 *                                                                               *
 *                                                                               *
 *                                                                               *
 *                                                                               *
 *                                                                               *
 *                                                                               *
 *                                                                               *
 *                                                     SNOW DEPTH    *
  *                                                  +)))))0)))))0))))1
 *                                                  *PRINT*CLEAR*    *
  *                                                  /)))))3)))))3))))1
 *                                                  *TEST *     *    *
  *                                                  /)))))3)))))3))))1
 *                                                  *EXIT *BACK *    *
    .))))))))))))))))))))))))))))))))))))))))))))))))))))))))))2)))))2)))))2)))))-
```

```
 11:21:56 07/04/96 1621Z                                      ANYTOWN AIRPORT
    +))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))),
 *PRINT - PRINT THE CURRENT SCREEN ON THE ASOS PRINTER                           *
 *                                                                               *
 *CLEAR - CLEAR ALL COUNTERS FOR PASS/FAIL FIELDS ON THIS PAGE AND               *
 *ALL PAGES SUMMARIZED BY THIS PAGE                                              *
 *                                                                               *
 *                                                                               *
 *TEST  - RUN EXTENDED DIAGNOSTIC TEST(S) ON THE SELECTED SENSOR                 *
 *****  W A R N I N G  **** THIS TEST MAY CAUSE TEMPORARY LOSS OF DATA           *
 *                                                                               *
 *                                                                               *
 *                                                                               *
 *                                                                               *
 *EXIT  - RETURN THE USER TO THE ONE-MINUTE SCREEN                               *
 *                                                                               *
 *BACK  - RETURN THE USER TO THE PREVIOUS SCREEN / KEYPAD                        *
 *                                                                               *
 *                                                                               *
 *                     PRESS HELP OR KEYPAD 0 TO EXIT HELP                       *
 *                                                                               *
    .))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))-
```

Figure 5-16. Snow Depth Sensor Page and System Help Screen

5.3.11.1   **Execution Options.** - Refer to paragraph 5.3.1.2 for execution options.

5.3.11.2   **User Inputs.** - There are no user inputs to the Snow Depth Sensor Diagnostic Function.

5.3.11.3   **System Inputs.** - Refer to paragraph 5.3.1.3 for system input processing.

5.3.11.4   **Execution.** - Refer to paragraph 5.3.1.4 for execution procedures.

5.3.11.5   **Termination.** - Refer to paragraph 5.3.1.5 for the termination procedure.

5.3.11.6   **Restart.** - Refer to Paragraph 5.3.1.6 for the restart procedures.

5.3.11.7   **Outputs.** - Refer to paragraph 5.3.1.7 for output processing.

5.3.11.8   **Interrelationship.** - Refer to paragraph 5.3.1.8 interrelationship description.

5.3.12   **Freezing Rain Sensor Diagnostic Function.**

The Freezing Rain Sensor Diagnostic Function displays the status of the Freezing Rain Sensor. Refer to figure 5-17 for the Freezing Rain Page and the Freezing Rain Page Help Screen.

5.3.12.1   **Execution Options.** - Refer to paragraph 5.3.1.2 for the execution options.

5.3.12.2   **User Inputs.** - There are no user inputs to the Freezing Rain Sensor Diagnostic Function.

5.3.12.3   **System Inputs.** - Refer to paragraph 5.3.1.3 for system input processing.

5.3.12.4   **Execution.** - Refer to paragraph 5.3.1.4 for the execution procedures.

5.3.12.5   **Termination.** - Refer to paragraph 5.3.1.5 for the termination procedure.

5.3.12.6   **Restart.** - Refer to paragraph 5.3.1.6 for the restart procedures.

5.3.12.7   **Outputs.** - Refer to paragraph 5.3.1.7 for outputs processing and the following:

DATA QUALITY - The status field will indicate whether or not the data being received from the sensor is valid (logically correct) when compared to the standard specified in the data quality monitoring algorithm. Three potential symbols appear in this field: P (Pass) (data quality meets standard required by monitoring test algorithm), F (Fail) and the associated fail count (data quality does not meet standard required by monitoring test algorithm) or * (initial system check in progress or sensor is not installed at this site).

REPORT PROCESS - The status field indicates the present operating status of the sensor, Y (Yes) sensor is delivering data to the system, N (No) sensor is off-line and not delivering data to the system, or * (initial system check in progress). The report process field can be set by the Observer on the review sensor configuration page.

SENSOR RESPONSE - The status field will indicate whether or not the sensor has responded to a data request from the sensor processing program or the self-test program. Four potential symbols appear in this field: P (Pass), F (Fail) and the associated fail count, T (Test) or * (initial system check in progress or sensor is not installed at this site).
PROBE STATUS - The status field indicates the present operating status of the sensor probe. Four potential

symbols appear in this field: P (Pass), F (Fail), T (Test) or * (initial system check in progress or sensor is not installed at this site).

HEATER STATUS - The status field indicates the present operating status of the de-icing heater. Four potential symbols appear in this field: P (Pass), F (Fail), T (Test) or * (initial system check in progress or sensor is not installed at this site).

ELECTRONICS STATUS - The status field indicates the present operating status of the sensor electronics. Four potential symbols appear in this field: P (Pass), F (Fail), T (Test) or * (initial system check in progress or sensor is not installed at this site).

5.3.12.8   **Interrelationship.** - Refer to paragraph 5.3.1.8 for interrelationship description.

5.3.13   **Frozen Precipitation Sensor Diagnostic Function.**

The Frozen Precipitation Sensor Diagnostic Function displays the status of the Frozen Precipitation Sensor. Refer to figure 5-18 for the Frozen Precipitation Page and the Frozen Precipitation Page Help Screen.

5.3.13.1   **Execution Options.** - Refer to paragraph 5.3.1.2 for execution options.

5.3.13.2   **User Inputs.** - There are no user inputs to the Frozen Precipitation Sensor Diagnostic Function.

5.3.13.3   **System Inputs.** - Refer to paragraph 5.3.1.3 for system inputs processing.

5.3.13.4   **Execution.** - Refer to paragraph 5.3.1.4 for execution procedures.

5.3.13.5   **Termination.** - Refer to paragraph 5.3.1.5 for the termination procedure..

5.3.13.6   **Restart.** - Refer to paragraph 5.3.1.6 for the restart procedures.

5.3.13.7   **Outputs.** - Refer to paragraph 5.3.1.7 for outputs processing and the following:

DATA QUALITY - The status field will indicate whether or not the data being received from the sensor is valid (logically correct) when compared to the standard specified in the data quality monitoring algorithm. Three potential symbols appear in this field: P (Pass) (data quality meets standard required by monitoring test algorithm), F (Fail) and the associated fail count (data quality does not meet standard required by monitoring test algorithm) or * (initial system check in progress or sensor is not installed at this site).

```
     1:21:56 07/04/96 1621Z                                        AIRPORT
     +)))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))),
*                                                                           *
*PROBE STATUS         P                        DATA QUALITY       F    2*
*HEATER STATUS        P                        REPORT PROCESS     Y    *
*ELECTRONICS STATUS   P                        SENSOR RESPONSE    F    2*
*                                                                           *
*                                                                           *
*                                                                           *
*                                                                           *
*                                                                           *
*                                                                           *
*                                                                           *
*                                                                           *
*                                                                           *
*                                                                           *
*                                                FREEZING RAIN  *
 *                                              +)))))0)))))0)))))1
*                                              *PRINT*CLEAR*     *
 *                                              /)))))3)))))3)))))1
*                                              *TEST *     *     *
 *                                              /)))))3)))))3)))))1
*                                              *EXIT *BACK *     *
   .)))))))))))))))))))))))))))))))))))))))))))))))))))))))2)))))2)))))2)))))-
```

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  11:21:56 07/04/96 1621Z                                  ANYTOWN AIRPORT
     +)))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))),
*PRINT - PRINT THE CURRENT SCREEN ON THE ASOS PRINTER                       *
*                                                                           *
*CLEAR - CLEAR ALL COUNTERS FOR PASS/FAIL FIELDS ON THIS PAGE AND           *
*ALL PAGES SUMMARIZED BY THIS PAGE                                          *
*                                                                           *
*                                                                           *
*TEST  - RUN EXTENDED DIAGNOSTIC TEST(S) ON THE SELECTED DEVICE             *
*****  W A R N I N G  **** THIS TEST MAY CAUSE TEMPORARY LOSS OF DATA       *
*                                                                           *
*                                                                           *
*                                                                           *
*                                                                           *
*                                                                           *
*                                                                           *
*EXIT  - RETURN THE USER TO THE ONE-MINUTE SCREEN                           *
*                                                                           *
*BACK  - RETURN THE USER TO THE PREVIOUS SCREEN / KEYPAD                    *
*                                                                           *
*                                                                           *
*                     PRESS HELP OR KEYPAD 0 TO EXIT HELP                   *
*                                                                           *
   .)))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))-
```

Figure 5-17. Freezing Rain Page and System Help Screen

```
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+)))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))),
*                                                                            *
*                                           DATA QUALITY        *      *
*                                           REPORT PROCESS      *      *
*                                           SENSOR RESPONSE     *      *
*                                                                       *
*                                                                       *
*                                                                       *
*                                                                       *
*                                                                       *
*                                                                       *
*                                                                       *
*                                                                       *
*                                                                       *
*                                                                       *
*                                              FROZ PREC WATER *
*                                           +)))))0)))))0)))))1
*                                           *PRINT*CLEAR*      *
*                                           /)))))3)))))3)))))1
*                                           *TEST *      *      *
*                                           /)))))3)))))3)))))1
*                                           *EXIT *BACK *      *
.))))))))))))))))))))))))))))))))))))))))))))))))))))))))2)))))2)))))2)))))-
```

```
   11:21:56 07/04/96 1621Z                                    ANYTOWN AIRPORT
      +))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))),
   *PRINT - PRINT THE CURRENT SCREEN ON THE ASOS PRINTER                      *
   *                                                                          *
   *CLEAR - CLEAR ALL COUNTERS FOR PASS/FAIL FIELDS ON THIS PAGE AND          *
   *ALL PAGES SUMMARIZED BY THIS PAGE                                         *
   *                                                                          *
   *                                                                          *
   *TEST  - RUN EXTENDED DIAGNOSTIC TEST(S) ON THE SELECTED DEVICE            *
   *****  W A R N I N G  **** THIS TEST MAY CAUSE TEMPORARY LOSS OF DATA      *
   *                                                                          *
   *                                                                          *
   *                                                                          *
   *                                                                          *
   *                                                                          *
   *                                                                          *
   *EXIT  - RETURN THE USER TO THE ONE-MINUTE SCREEN                          *
   *                                                                          *
   *BACK  - RETURN THE USER TO THE PREVIOUS SCREEN / KEYPAD                   *
   *                                                                          *
   *                                                                          *
   *                    PRESS HELP OR KEYPAD 0 TO EXIT HELP                   *
   *                                                                          *
      .))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))-
```

Figure 5-18. Frozen Precipitation Page and System Help Screen

REPORT PROCESS - The status field indicates the present operating status of the sensor, Y (Yes) sensor is delivering data to the system, N (No) sensor is off-line and not delivering data to the system, or * (initial system check in progress). The report process field can be set by the Observer on the review sensor configuration page.

SENSOR RESPONSE - The status field will indicate whether or not the sensor has responded to a data request from the sensor processing program or the self-test program. Four potential symbols appear in this field: P (Pass), F (Fail) and the associated fail count, T (Test) or * (initial system check in progress or sensor is not installed at this site).

PROBE STATUS - The status field indicates the present operating status of the sensor probe. Four potential symbols appear in this field: P (Pass), F (Fail), T (Test) or * (initial system check in progress or sensor is not installed at this site).

HEATER STATUS - The status field indicates the present operating status of the de-icing heater. Four potential symbols appear in this field: P (Pass), F (Fail), T (Test) or * (initial system check in progress or sensor is not installed at this site).

ELECTRONICS STATUS - The status field indicates the present operating status of the sensor electronics. Four potential symbols appear in this field: P (Pass), F (Fail), T (Test) or * (initial system check in progress or sensor is not installed at this site).

5.3.13.8   **Interrelationship.** - Refer to paragraph 5.3.1.8 interrelationship description.

5.3.13A   **<u>Thunderstorm Sensor Diagnostic Function.</u>**

The Thunderstorm Sensor Diagnostic Function will display the status of the Thunderstorm Sensor. Refer to figure 5-19A for the Thunderstorm Sensor Page and the Thunderstorm Sensor Page Help Screen.

5.3.13A.1   **Execution Options.** - Refer to paragraph 5.3.1.2 for execution options.

5.3.13A.2   **User Inputs.** - There are no user inputs to the Thunderstorm Sensor Diagnostic Function.

5.3.13A.3   **System Inputs.** - Refer to paragraph 5.3.1.3 for system inputs processing.

5.3.13A.4   **Execution**. - Refer to paragraph 5.3.1.4 for execution procedures.

5.3.13A.5   **Termination.** - Refer to paragraph 5.3.1.5 for termination procedure.

5.3.13A.6   **Restart.** - Refer to paragraph 5.3.1.6 for restart procedures.

5.3.13A.7   **Outputs.** - Refer to paragraph 5.3.1.7 for output processing.

5.3.13A.8   **Interrelationship.** - Refer to paragraph 5.3.1.8 for interrelationship description.

5.3.14   **<u>Sunshine Sensor Diagnostic Function.</u>**

The Sunshine Sensor Diagnostic Function will display the status of the Sunshine Sensor. Refer to figure 5-19 for the Sunshine Sensor Page and the Sunshine Sensor Page Help Screen.

5.3.14.1   **Execution Options.** - Refer to paragraph 5.3.1.2 for execution options.

```
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    +)))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))),
 *                                                                          *
 * SELFTEST                    C6   P            DATA QUALITY       P        *
 * INPUT VOLTAGE > 11 VOLT          P            REPORT PROCESS     Y        *
 * INPUT VOLTAGE < 13 VOLT          P            SENSOR RESPONSE    P        *
 * 5 VOLT SUPPLY                    P                                        *
 * 10 VOLT SUPPLY                   P            POWER STATUS       P        *
 *                                               POWER CONTROL      ON       *
 *                                                                          *
 *                                                                          *
 *                                                                          *
 *                                                                          *
 *                                                                          *
 *                                                               THUNDERSTORM  *
  *                                                           +)))))0)))))0)))))1
 *                                                           *PRINT*CLEAR*     *
  *                                                           /)))))3)))))3)))))1
 *                                                           *TEST *     *POWER*
  *                                                           /)))))3)))))3)))))1
 *                                                           *EXIT *BACK *     *
    .)))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))2)))))2)))))2)))))-
```

```
 11:21:56 07/04/96 1621Z                                      ANYTOWN AIRPORT
    +)))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))),
 *PRINT - PRINT THE CURRENT SCREEN ON THE ASOS PRINTER                      *
 *                                                                          *
 *CLEAR - CLEAR ALL COUNTERS FOR PASS/FAIL FIELDS ON THIS PAGE AND          *
 *ALL PAGES SUMMARIZED BY THIS PAGE                                         *
 *                                                                          *
 *                                                                          *
 *TEST  - RUN EXTENDED DIAGNOSTIC TEST(S) ON THE SELECTED DEVICE            *
 *****  W A R N I N G  **** THIS TEST MAY CAUSE TEMPORARY LOSS OF DATA      *
 *                                                                          *
 *                                                                          *
 *                                                                          *
 *                                                                          *
 *                                                                          *
 *                                                                          *
 *EXIT  - RETURN THE USER TO THE ONE-MINUTE SCREEN                          *
 *                                                                          *
 *BACK  - RETURN THE USER TO THE PREVIOUS SCREEN / KEYPAD                   *
 *                                                                          *
 *                                                                          *
 *                    PRESS HELP OR KEYPAD 0 TO EXIT HELP                   *
 *                                                                          *
    .)))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))-
```

Figure 5-19A. Thunderstorm Sensor Page and System Help Screen

```
 11:21:56 07/04/96 1621Z                                           ANYTOWN AIRPORT
    +))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))),
 *                                                                               *
 *                                              DATA QUALITY          *          *
 *                                              REPORT PROCESS        *          *
 *                                              SENSOR RESPONSE       *          *
 *                                                                               *
 *                                                                               *
 *                                                                               *
 *                                                                               *
 *                                                                               *
 *                                                                               *
 *                                                                               *
 *                                                                               *
 *                                                                               *
 *                                                                    SUNSHINE   *
  *                                                             +)))))0)))))0)))))1
 *                                                             *PRINT*CLEAR*      *
  *                                                            /)))))3)))))3)))))1
 *                                                             *TEST *     *      *
  *                                                            /)))))3)))))3)))))1
 *                                                             *EXIT *BACK *      *
    .))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))2)))))2)))))2)))))-



 11:21:56 07/04/96 1621Z                                           ANYTOWN AIRPORT
     +))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))),
 *PRINT - PRINT THE CURRENT SCREEN ON THE ASOS PRINTER                           *
 *                                                                               *
 *CLEAR - CLEAR ALL COUNTERS FOR PASS/FAIL FIELDS ON THIS PAGE AND               *
 *ALL PAGES SUMMARIZED BY THIS PAGE                                              *
 *                                                                               *
 *                                                                               *
 *TEST  - RUN EXTENDED DIAGNOSTIC TEST(S) ON THE SELECTED DEVICE                 *
 *****  W A R N I N G  **** THIS TEST MAY CAUSE TEMPORARY LOSS OF DATA           *
 *                                                                               *
 *                                                                               *
 *                                                                               *
 *                                                                               *
 *                                                                               *
 *EXIT  - RETURN THE USER TO THE ONE-MINUTE SCREEN                               *
 *                                                                               *
 *BACK  - RETURN THE USER TO THE PREVIOUS SCREEN / KEYPAD                        *
 *                                                                               *
 *                                                                               *
 *              PRESS HELP OR KEYPAD 0 TO EXIT HELP                              *
 *                                                                               *
     .)))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))-
```

Figure 5-19. Sunshine Sensor Page and System Help Screen

5.3.14.2   **User Inputs.** - There are no user inputs to the Sunshine Sensor Diagnostic Function.

5.3.14.3   **System Inputs.** - Refer to paragraph 5.3.1.3 for system inputs processing.

5.3.14.4   **Execution**. - Refer to paragraph 5.3.1.4 for execution procedure procedures.

5.3.14.5   **Termination.** - Refer to paragraph 5.3.1.5 for the termination procedure.

5.3.14.6   **Restart.** - Refer to paragraph 5.3.1.6 for restart procedures.

5.3.14.7   **Outputs.** - Refer to paragraph 5.3.1.7 for system outputs processing.

5.3.14.8   **Interrelationship.** - Refer to paragraph 5.3.1.8 for interrelationship description.

5.3.15   **ACU/VME Card Rack Status Function.**

The ACU/VME Card Rack Status Function displays the overall status of the ACU/VME card rack boards and provides menu commands to access sensor diagnostic functions, hardware status, and diagnostic functions. If two FRUs fail, then an ambiguity check is used to determine the failed FRU. Refer to figure 5-20 for the ACU/VME Cards Page and the ACU/VME Cards Page Help Screen.

5.3.15.1   **Execution Options.** - Within the ACU VME Card Rack Status Function the following execution menu commands are available to the user. Also refer to paragraph 5.3.1.2.

MENU COMMANDS

#1 CPU A - Initiates the ACU CPU A Diagnostic Function. The ACU CPU A Diagnostic Function status field indicates the overall status of the ACU CPU A board. The ACU CPU A Diagnostic Function display page presents the status of discrete functional areas on the ACU CPU A board and permits the Technician to designate the ACU CPU A board and initiate a self-test of the functional areas on the ACU CPU A board.

#2 CPU B - Initiates the ACU CPU B Diagnostic Function. The ACU CPU B Diagnostic Function acts in the same manner as the ACU CPU A Diagnostic Function.

#3 MEMORY - Initiates the ACU Memory Diagnostic Function. The ACU Memory Diagnostic Function status field indicates the overall status of the ACU memory board. The ACU Memory Diagnostic Function display page presents the status of discrete memory locations on the ACU memory board. The page also permits the Technician to designate a problem in the ACU memory card, or determine if the ACU memory board was programmed incorrectly.

#4 PSD MEMORY - This field is displayed and accessible only if both the ABT and RTA have been configured into the system from the REVUE-SITE-CONFIG-COMMS page. The status field contains a symbol indicating the overall status of the PSD memory board. It is derived from the output of the SRAM self-test initiated from the PSD Memory Status Page. The input for this status field is based on a search for the associated status of P, F, C, T, or * from the PSD Memory Status Page.

#5 SIO #1 - Initiates the ACU Serial Input/Output (I/O) #1 Diagnostic Function. The ACU Serial I/O #1 Diagnostic Function display indicates the status of the ACU serial I/O #1 board. The ACU Serial I/O #1 Diagnostic Function display page presents the status of discrete functional areas on the ACU Serial I/O #1

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     +))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))),
   *                                                                            *
   *    BOARD NAME                                                              *
   *                                                                            *
   *  #1 CPU A           F                #13 A/D                 P             *
   *  #2 CPU B           F                #14 A/D RESISTOR                      *
   *  #3 MEMORY          P                #15 DIGITAL I/O                       *
   *  #4 PSD MEMORY      P                #16 VIDEO CONTROLLER     P            *
   *  #5 SIO #1          P                #17                                   *
   *  #6 SIO #2          P                #18                                   *
   *  #7 SIO #3          P                #19                                   *
   *  #8 SIO #4          P                #20 VOICE PROC #1        P            *
   *  #9 SIO #5          P                #21 VOICE PROC #2        P            *
   * #10 SIO #6          P                                                      *
   * #11 SIO #7          P                                                      *
   * #12 SIO #8          C                                       VME CARDS    *
    *                                                  +)))))0)))))0)))))1
   *                                                  *PRINT*CLEAR*PRE   *
    *                                                  /)))))3)))))3)))))1
   *                                                  *SEL   *     *     *
    *                                                  /)))))3)))))3)))))1
   *                                                  *EXIT *BACK *NEXT *
     .)))))))))))))))))))))))))))))))))))))))))))))))))))))))))2)))))2)))))2)))))-



  11:21:56 07/04/96 1621Z                                    ANYTOWN AIRPORT
     +))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))),
  *PRINT - PRINT THE CURRENT SCREEN ON THE ASOS PRINTER                         *
  *                                                                            *
  *CLEAR - CLEAR ALL COUNTERS FOR PASS/FAIL FIELDS ON THIS PAGE AND             *
  *ALL PAGES SUMMARIZED BY THIS PAGE                                           *
  *PRE  - MOVE THE CURSOR TO THE PREVIOUS FIELD                                *
  *                                                                            *
  *SEL   - DISPLAYS THE PAGE SELECTED BY THE CURRENT CURSOR POSITION           *
  *                                                                            *
  *                                                                            *
  *                                                                            *
  *                                                                            *
  *EXIT  - RETURN THE USER TO THE ONE-MINUTE SCREEN                            *
  *                                                                            *
  *BACK  - RETURN THE USER TO THE PREVIOUS SCREEN / KEYPAD                     *
  *                                                                            *
  *NEXT  - MOVE THE CURSOR TO THE NEXT FIELD                                   *
  *                                                                            *
  *                                                                            *
  *                  PRESS HELP OR KEYPAD 0 TO EXIT HELP                       *
  *                                                                            *
     .))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))-
```

Figure 5-20. ACU/VME Cards Page and System Help Screen

board and permits the Technician to initiate a self-test of the ports on the ACU Serial I/O #1 board.

#6 SIO #2 - Initiates the ACU Serial I/O #2 Diagnostic Function. The ACU Serial I/O #2 Diagnostic Function acts in the same manner as the ACU Serial I/O #1 Diagnostic Function.

#7 SIO #3 - Initiates the ACU Serial I/O #3 Diagnostic Function. The ACU Serial I/O #3 Diagnostic Function acts in the same manner as the ACU Serial I/O #1 Diagnostic Function.

#8 SIO #4 - Initiates the ACU Serial I/O #4 Diagnostic Function. The ACU Serial I/O #4 Diagnostic Function acts in the same manner as the ACU Serial I/O #1 Diagnostic Function.

#9 SIO #5 - Initiates the ACU Serial I/O #5 Diagnostic Function. The ACU Serial I/O #5 Diagnostic Function acts in the same manner as the ACU Serial I/O #1 Diagnostic Function.

#10 SIO #6 - Initiates the ACU Serial I/O #6 Diagnostic Function. The ACU Serial I/O #6 Diagnostic Function acts in the same manner as the ACU Serial I/O #1 Diagnostic Function.

#11 SIO #7 - Initiates the ACU Serial I/O #7 Diagnostic Function. The ACU Serial I/O #7 Diagnostic Function acts in the same manner as the ACU Serial I/O #1 Diagnostic Function.

#12 SIO #8 - Initiates the ACU Serial I/O #8 Diagnostic Function. The ACU Serial I/O #8 Diagnostic Function acts in the same manner as the ACU Serial I/O #1 Diagnostic Function.

#13 A/D - Initiates the ACU Analog/Digital (A/D) Diagnostic Function. The ACU A/D Diagnostic Function display indicates the overall status of the ACU A/D Converter boards in the system. The ACU A/D Diagnostic Function display page presents the status of discrete functional areas on the ACU A/D Converter board, and permits the Technician to initiate a self-test of the functional areas on the ACU A/D Converter board.

#14 A/D RESISTOR - Indicates the overall status of the ACU Analog/Digital (A/D) Resistor in the system.

#15 DIGITAL I/O - Indicates the overall status of the ACU Digital I/O Converter boards in the system.

#16 VIDEO CONTROLLER - Initiates the ACU Video Controller Diagnostic Function. The ACU Video Controller Diagnostic Function display indicates the status of the ACU Video board in the system. The ACU Video Controller Diagnostic Function display page presents the status of discrete functional areas on the ACU Video board, and permits the Technician to initiate a self-test on the ACU Video board.

#20 VOICE PROC #1 - Initiates the ACU Voice Processor #1 Diagnostic Function. The ACU Voice Processor #1 Diagnostic Function display indicates the overall status of the ACU CPU and Audio #1 boards. The ACU Voice Processor #1 Diagnostic Function display page presents the status of discrete functional areas on the ACU test boards and permits the Technician to initiate a self-test of the functional areas on the ACU test boards.

#21 VOICE PROC #2 - Initiates the ACU Voice Processor #2 Diagnostic Function. The ACU Voice Processor #2 Diagnostic Function acts in the same manner as the ACU Voice Processor #1 Diagnostic Function.

5.3.15.2   **User Inputs.** - There are no user inputs to the ACU VME Card Rack Status Function.

5.3.15.3   **System Inputs.** - System inputs to the ACU VME Card Rack Status Function are:

#1 CPU A - The ACU CPU A Diagnostic Function status field contains a symbol indicating the overall status of the ACU CPU A board. The status field is derived from the output of self-tests of the ACU CPU A board initiated for the CPU Status Page. .

#2 CPU B - The ACU CPU B Diagnostic Function status field contains a symbol indicating the overall status of the ACU CPU B board.

#3 MEMORY - The ACU Memory status field contains a symbol indicating the overall status of the ACU memory board. The status field is derived from the output of self-tests of the ACU memory board initiated for the ACU Memory Status Page.

#4 PSD MEMORY - The PSD Memory status field contains a symbol indicating the overall status of the PSD memory board. The status field is derived from the output of self-tests of the PSD memory board initiated from the PSD Memory Status Page.

#5 SIO #1 - The ACU Serial I/O #1 status field contains a symbol indicating the status of the ACU Serial I/O #1 board. The status field is derived from the output of self-tests of the ACU Serial I/O #1 board initiated for the ACU Serial I/O #1 Status Page.

#6 SIO #2 - The ACU Serial I/O #2 status field contains a symbol indicating the overall status of the ACU Serial I/O #2 board. The status field is derived in the same manner as the status field for the ACU Serial I/O #1 status field.

#7 SIO #3 - The ACU Serial I/O #3 status field contains a symbol indicating the overall status of the ACU Serial I/O #3 board. The status field is derived in the same manner as the status field for the ACU Serial I/O #1 status field.

#8 SIO #4 - The ACU Serial I/O #4 status field contains a symbol indicating the overall status of the ACU Serial I/O #4 board. The status field is derived in the same manner as the status field for the ACU Serial I/O #1 status field.

#9 SIO #5 - The ACU Serial I/O #5 status field contains a symbol indicating the overall status of the ACU Serial I/O #5 board. The status field is derived in the same manner as the status field for the ACU Serial I/O #1 status field.

#10 SIO #6 - The ACU Serial I/O #6 status field contains a symbol indicating the overall status of the ACU Serial I/O #6 board. The status field is derived in the same manner as the status field for the ACU Serial I/O #1 status field.

#11 SIO #7 - The ACU Serial I/O #7 status field contains a symbol indicating the overall status of the ACU Serial I/O #7 board. The status field is derived in the same manner as the status field for the ACU Serial I/O #1 status field.

#12 SIO #8 - The ACU Serial I/O #8 status field contains a symbol indicating the overall status of the ACU Serial I/O #8 board. The status field is derived in the same manner as the status field for the ACU Serial I/O #1 status field.

#13 A/D - The ACU A/D status field contains a symbol indicating the status of the ACU A/D Converter boards. The status field is derived from the output of self-tests of the ACU A/D Converter boards initiated for the ACU A/D Status Page.

#14 A/D Resistor - The ACU A/D Resistor status field contains a symbol indicating the status of the ACU A/D Resistor.

#15 DIGITAL I/O - The ACU Digital I/O status field contains a symbol indicating the status of the ACU Digital

I/O boards.

#16 VIDEO CONTROLLER - The ACU Video Controller status field contains a symbol indicating the status of the ACU Video Controller board. The status field is derived from the output of self-tests of the ACU Video Controller board initiated for the ACU Video Controller Status Page.

#20 VOICE PROC #1 - The ACU Voice Processor #1 status field contains a symbol indicating the status of the ACU CPU and Audio #1 boards. The status field is derived from the output of self-tests of the test boards initiated for the ACU Voice Processor #1 Status Page.

#21 VOICE PROC #2 - The ACU Voice Processor #2 status field contains a symbol indicating the overall status of the ACU CPU and Audio #2 boards. The status field is derived in the same manner as the status field for the ACU Voice Processor #1 status field.

5.3.15.4   **Execution.** - Refer to paragraph 5.3.1.4 for the execution procedures.

5.3.15.5   **Termination.** - Refer to paragraph 5.3.1.5 for the termination procedure.

5.3.15.6   **Restart.** - Refer to paragraph 5.3.1.6 for the restart procedures.

5.3.15.7   **Outputs.** -Refer to paragraph 5.3.1.7 for outputs processing. Outputs of the ACU VME Card Rack Status Function are:

#1 CPU A - The ACU CPU A Diagnostic Function status field contains a symbol indicating the overall status of the ACU CPU A board. The status field is derived from the output of self-tests of the ACU CPU A board initiated for the ACU CPU A Status Page.   The status field indicates a P if all the applicable CPU A status fields on the ACU CPU A Status Page have a pass status. The status field indicates an F and an associated fail count if any of the applicable CPU A status fields on the ACU CPU A Status Page have a fail status and none of the applicable CPU A status fields have a test or caution status.   The status field indicates a C if any of the applicable CPU A status fields on the ACU CPU A Status Page have a caution status and none of the applicable CPU A status fields have a fail or test status. The status field indicates a T if any of the applicable CPU A status fields on the ACU CPU A Status Page have a test status. The status field indicates an * if there is insufficient information.

#2 CPU B - The ACU CPU B Diagnostic Function status field contains a symbol indicating the overall status of the ACU CPU B board. The output of the status field is indicates in the same manner as the ACU CPU A Diagnostic Function status field.

#3 MEMORY - The ACU Memory status field contains a symbol indicating the overall status of the ACU memory board. The status field is derived from the output of self-tests of the ACU memory board initiated for the ACU Memory Status Page. The status field indicates a P if all the applicable memory status fields on the ACU Memory Status Page have a pass status. The status field indicates an F and an associated fail count if any of the applicable memory status fields on the ACU Memory Status Page have a fail status and none of the applicable memory status fields have a test or caution status. The status field indicates a C if any of the applicable memory status fields on the ACU Memory Status Page have a caution status and none of the applicable memory status fields have a fail or test status. The status field indicates a T if any of the applicable memory status fields on the ACU Memory Status Page have a test status. The status field indicates an * if there is insufficient information.

#4 PSD MEMORY - The PSD Memory status field contains a symbol indicating the overall status of the PSD memory board. The status field is derived from the output of self-tests of the PSD memory board initiated from

the PSD Memory Status Page. The status field indicates a P if all the applicable memory status fields on the PSD Memory Status Page have a pass status. The status field indicates an F if any of the applicable memory status fields on the PSD Memory Status Page have a fail status. The status field indicates a C if any of the applicable PSD memory status fields has a caution status and none of the applicable PSD memory status fields has a fail or test status. The status field indicates a T if any of the applicable memory status fields on the PSD Memory Status Page have a test status. The status field indicates an * if there is insufficient information.

#5 SIO #1 - The ACU serial I/O #1 status field contains a symbol indicating the overall status of the ACU serial I/O #1 board. The status field is derived from the output of self-tests of the ACU serial I/O #1 board initiated for the ACU Serial I/O #1 Status Page.. The status field indicates a P if all the applicable serial I/O #1 status fields on the ACU Serial I/O #1 Status Page have a pass status. The status field indicates an F and an associated fail count if any of the applicable serial I/O #1 status fields on the ACU Serial I/O #1 Status Page have a fail status and none of the applicable serial I/O #1 status fields have a test or caution status. The status field indicates a C if any of the applicable serial I/O #1 status fields on the ACU Serial I/O #1 Status Page have a caution status and none of the applicable serial I/O #1 status fields have a fail or test status. The status field indicates a D if 5 or more SIO loopback failures have occurred and are not currently failed. The status field indicates a T if any of the applicable serial I/O #1 status fields on the ACU Serial I/O #1 Status Page have a test status. The status field indicates an * if there is insufficient information.

#6 SIO #2 - The ACU Serial I/O #2 status field contains a symbol indicating the overall status of the ACU Serial I/O #2 board. The output of the status field is indicated in the same manner as the ACU Serial I/O #1 status field.

#7 SIO #3 - The ACU Serial I/O #3 status field contains a symbol indicating the overall status of the ACU Serial I/O #3 board. The output of the status field is indicated in the same manner as the ACU Serial I/O #1 status field.

#8 SIO #4 - The ACU Serial I/O #4 status field contains a symbol indicating the overall status of the ACU Serial I/O #4 board. The output of the status field is indicated in the same manner as the ACU Serial I/O #1 status field.

#9 SIO #5 - The ACU Serial I/O #5 status field contains a symbol indicating the overall status of the ACU Serial I/O #5 board. The output of the status field is indicated in the same manner as the ACU Serial I/O #1 status field.

#10 SIO #6 - The ACU Serial I/O #6 status field contains a symbol indicating the overall status of the ACU Serial I/O #6 board. The output of the status field is indicated in the same manner as the ACU Serial I/O #1 status field.

#11 SIO #7 - The ACU Serial I/O #7 status field contains a symbol indicating the overall status of the ACU Serial I/O #7 board. The output of the status field is indicated in the same manner as the ACU Serial I/O #1 status field.

#12 SIO #8 - The ACU Serial I/O #8 status field contains a symbol indicating the overall status of the ACU Serial I/O #8 board. The output of the status field is indicated in the same manner as the ACU Serial I/O #1 status field.

#13 A/D - The ACU A/D status field contains a symbol indicating the overall status of the ACU A/D Converter boards. The status field is derived from the output of self-tests of the ACU A/D Converter boards initiated for

the ACU A/D Status Page. The status field indicates a P if all the applicable A/D status fields on the ACU A/D Status Page have a pass status. The status field indicates an F and an associated fail count if any of the applicable A/D status fields on the ACU A/D Status Page have a fail status and none of the applicable A/D status fields have a test or caution status. The status field indicates a C if any of the applicable A/D status fields on the ACU A/D Status Page have a caution status and none of the applicable A/D status fields have a fail or test status. The status field indicates a T if any of the applicable A/D status fields on the ACU A/D Status Page have a test status. The status field indicates an * if there is insufficient information.

#14 A/D RESISTOR - The ACU A/D Resistor status field contains a symbol indicating the overall status of the ACU A/D Resistor.

#15 DIGITAL I/O - The ACU Digital I/O status field contains a symbol indicating the overall status of the ACU Digital I/O board.

#16 VIDEO CONTROLLER - The ACU Video Controller status field contains a symbol indicating the overall status of the ACU Video Controller boards. The status field is derived from the output of self-tests of the ACU Video Controller board initiated for the ACU Video Controller Status Page. The status field indicates a P if all the applicable Video Controller status fields on the ACU Video Controller Status Page have a pass status. The status field indicates an F and an associated fail count if any of the applicable Video Controller status fields on the ACU Video Controller Status Page have a fail status and none of the applicable Video Controller status fields have a test or caution status. The status field indicates a C if any of the applicable Video Controller status fields on the ACU Video Controller Status Page have a caution status and none of the applicable Video Controller status fields have a fail or test status. The status field indicates a T if any of the applicable Video Controller status fields on the ACU Video Controller Status Page have a test status. The status field indicates an * if there is insufficient information.

#20 VOICE PROC #1 - The ACU Voice Processor #1 status field contains a symbol indicating the overall status of the ACU CPU and Audio #1 boards. The status field is derived from the output of self-tests of the ACU CPU and Audio #1 boards initiated for the ACU Voice Processor #1 Status Page. The status field indicates a P if all the applicable Voice Processor #1 status fields on the ACU Voice Processor #1 Status Page have a pass status. The status field indicates an F and an associated fail count if any of the applicable Voice Processor #1 status fields on the ACU Voice Processor #1 Status Page have a fail status and none of the applicable Voice Processor #1 status fields have a test or caution status. The status field indicates a C if any of the applicable Voice Processor #1 status fields on the ACU Voice Processor #1 Status Page have a caution status and none of the applicable Voice Processor #1 status fields have a fail or test status. The status field indicates a T if any of the applicable Voice Processor #1 status fields on the ACU Voice Processor #1 Status Page have a test status. The status field indicates an * if there is insufficient information.

#21 VOICE PROC #2 - The ACU Voice Processor #2 status field contains a symbol indicating the overall status of the ACU ISIO #2 board. The output of the status field is indicated in the same manner as the ACU Voice Processor #1 status field.

5.3.15.8   **Interrelationship.** - Refer to paragraph 5.3.1.8 for interrelationship description.

5.3.16   **ACU CPU Diagnostic Function.**

The ACU CPU Diagnostic Function display indicates the status of the CPU boards in the system. The display also presents the status of discrete functional areas on the CPU boards. Using this display and the keypad, the Technician can initiate a self-test of the functional areas on the CPU board. Refer to figure 5-21 for the CPU

Page and the CPU Page Help Screen.

5.3.16.1   **Execution Options.** - Refer to paragraph 5.3.1.2 for execution options and the following for menu commands:

MENU COMMANDS

ACU PRIMARY CPU - Initiates the ACU CPU board self-test. The status of the functional areas on the ACU CPU board is displayed at the completion of the self-test. The functional tests performed include the DRAM, EPROM, BUS ERRORS, SERIAL PORT#1 - LOOPBACK and XMIT ERRORS, SERIAL PORT #2 - LOOPBACK and XMIT ERRORS.

5.3.16.2   **User Inputs.** - There are no user inputs to the ACU CPU Diagnostic Function.

5.3.16.3   **System Inputs.** - Refer to Paragraph 5.3.1.3 for system inputs processing. System inputs to the ACU CPU Diagnostic Function are:

DRAM - The status field for the Dynamic Random Access Memory (DRAM) contains a symbol indicating the status of the ACU CPU board. The inputs to the status field are based on the alternating pattern tests (writing and reading back hexadecimal sets of 1's and 0's) which are performed by the system. The system evaluates these bit patterns and determines the output status.

EPROM - The status field for the Erasable Programmable Read Only Memory (EPROM) contains a symbol indicating the status of the ACU CPU board. The inputs to the status field are based on the system byte count or checksum being equal to the last byte in the EPROM. The system evaluates this byte count or checksum and determines the output status.

BUS ERRORS - The status field for the Bus Errors contains a symbol indicating the status of the ACU CPU board. The inputs to the status field are based on a comparison of what is written into the Memory or the I/O Address and what is read from these addresses to determine a valid response by the system. The system evaluates this response and determines the output status.

SERIAL PORT #1 and #2 LOOPBACK - The LOOPBACK status fields for both Serial Ports #1 and #2 contain symbols indicating the status of the ACU CPU board. The inputs to the status fields are based on comparing what is written to the Universal Asynchronous Receiver/Transmitter (UART) and what is being read back from the UART during system test. The system evaluates this information and determines the output status.

```
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+)))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))),
*                                ACU                                         *
*                            PRIMARY CPU                                     *
*                                                                            *
* DRAM                         P                                             *
* EPROM                        P                                             *
* BUS ERRORS                   P                                             *
*                                                                            *
* SERIAL PORT #1                                                             *
*  LOOPBACK                    P                                             *
*  XMIT ERRORS                 P                                             *
*                                                                            *
* SERIAL PORT #2                                                             *
*  LOOPBACK                    P                                             *
*  XMIT ERRORS                 P                                             *
*                                                                   CPU      *
*                                                     +)))))0)))))0)))))1
* -------------------------------------------------- *PRINT*CLEAR*     *
*                                                     /)))))3)))))3)))))1
* REDUNDANT CPU                B                      *TEST *     *     *
*  STATUS                      F                      /)))))3)))))3)))))1
*                                                     *EXIT *BACK *     *
.)))))))))))))))))))))))))))))))))))))))))))))))))))))))))2)))))2)))))2)))))-
```

```
11:21:56 07/04/96 1621Z                                       ANYTOWN AIRPORT
+)))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))),
*PRINT - PRINT THE CURRENT SCREEN ON THE ASOS PRINTER                        *
*                                                                            *
*CLEAR - CLEAR ALL COUNTERS FOR PASS/FAIL FIELDS ON THIS PAGE AND            *
*ALL PAGES SUMMARIZED BY THIS PAGE                                           *
*                                                                            *
*                                                                            *
*TEST  - RUN EXTENDED DIAGNOSTIC TEST(S) ON THE SELECTED DEVICE              *
*****  W A R N I N G  ****  THIS TEST MAY CAUSE TEMPORARY LOSS OF DATA        *
*                                                                            *
*                                                                            *
*                                                                            *
*                                                                            *
*EXIT  - RETURN THE USER TO THE ONE-MINUTE SCREEN                            *
*                                                                            *
*BACK  - RETURN THE USER TO THE PREVIOUS SCREEN / KEYPAD                     *
*                                                                            *
*                                                                            *
*                                                                            *
*                                                                            *
*                    PRESS HELP OR KEYPAD 0 TO EXIT HELP                      *
*                                                                            *
.)))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))-
```

Figure 5-21. CPU Page and System Help Screen

SERIAL PORT #1 and #2 XMIT ERRORS - The XMIT ERRORS status fields for both Serial Ports #1 and #2 contain symbols indicating the status of the ACU CPU board. The inputs to the status fields are based on what errors the Universal Asynchronous Receiver/Transmitter (UART) status register contains. Errors include Framing Errors, Parity Errors, and Overrun Errors. The system evaluates this information and determines the output status.

REDUNDANT CPU - The status field for the Redundant CPU contains a symbol indicating which CPU board is the redundant CPU. The inputs to the status field are based on a flag which is set in the Software.

STATUS - The status field contains the operational status of the redundant CPU. The system evaluates this response and determines the output status.

5.3.16.4   **Execution.** - Refer to paragraph 5.3.1.4 for execution procedures.

5.3.16.5   **Termination.** - Refer to paragraph 5.3.1.5 for the termination procedure.

5.3.16.6   **Restart.** - Refer to paragraph 5.3.1.6 for restart procedures.

5.3.16.7   **Outputs.** - Refer to paragraph 5.3.1.7 for outputs processing. Outputs of the ACU CPU Diagnostic Function are:

DRAM - The status field for the Dynamic Random Access Memory (DRAM) contains a symbol indicating the status of the ACU CPU board.   The status field indicates a P if the system reads back the same alternating patterns (hexadecimal sets of 1's and 0's) as were written to the memory location during the test. The status field indicates an F if the data read back does not match the data written to the memory location. The status field indicates a T if the CPU board test is in progress.

EPROM - The status field for the Erasable and Programmable Read Only Memory (EPROM) contains a symbol indicating the status of the ACU CPU board. The status field indicates a P if the system byte count or checksum is equal to the last byte in the EPROM. The status field indicates an F if the system byte count or checksum is not equal to the last byte in the EPROM. The status field indicates a T if the CPU board test is in progress.

BUS ERRORS - The status field for the BUS ERRORS contains a symbol indicating the status of the ACU CPU board. The status field indicates a P if the system successfully reads valid data from a specific memory or I/O address. The status field indicates an F if the system is not successful in reading valid data from a specific memory or I/O address. The status field indicates a T if the CPU board test is in progress.

SERIAL PORT #1 and #2 LOOPBACK - The LOOPBACK status fields for both Serial Ports #1 and #2 contain symbols indicating the status of the ACU CPU board. The status fields indicate a P if the system reads back the same data that was written to the UART. The status field indicates an F if the system reads back different data than was written to the UART. The status field indicates a T if the CPU board test is in progress.

SERIAL PORT #1 and #2 XMIT ERRORS - The XMIT ERRORS status fields for both Serial Ports #1 and #2 contain symbols indicating the status for the ACU CPU board. Errors observed include Framing Errors, Parity Errors, and Overrun Errors. The status fields indicate a P if the system has a limited number of errors during system test. The status field indicates an F if the system detects numerous errors during system test. The status field indicates a T if the CPU board test is in progress.

REDUNDANT CPU - The REDUNDANT CPU status field contains symbols (A, B or *) indicating which CPU is the redundant CPU in the ACU.

STATUS - The status field contains a symbol indicating the status of the redundant CPU. The status field indicates a P if the Redundant CPU is functioning. The status field indicates an F and an associated fail count if the Redundant CPU is not operating correctly. The status field indicates a T if the Redundant CPU board test is in progress.

5.3.16.8   **Interrelationship.** - Refer to paragraph 5.3.1.8 for interrelationship description.

5.3.17   **ACU Memory Diagnostic Function.**

The ACU Memory Diagnostic Function display indicates the status of the memory board in the system. The display also presents the status of discrete memory locations on the memory board. Using this display and the keypad, the technician can determine a problem in the memory card, or determine if the memory board was programmed incorrectly. Refer to figure 5-22 for the Memory Page and the Memory Page Help Screen.

5.3.17.1   **Execution Options.** - Refer to paragraph 5.3.1.2 for execution options and the following menu:

MENU COMMANDS

ACU MEMORY - Initiates the ACU Memory self-test. The status of the memory locations on the ACU Memory board is displayed at the completion of the self-test. The functional tests performed include the EPROM and SRAM.

5.3.17.2   **User Inputs.** - There are no user inputs to the ACU Memory Diagnostic Function.

5.3.17.3   **System Inputs.** - System inputs to the ACU Memory Diagnostic Function are:

EPROM - The status field for the Erasable and Programmable Read Only Memory (EPROM) contains a symbol indicating the status of the ACU Memory board. The inputs to the status field are based on the system byte count or checksum being equal to the last byte in the EPROM.   The system evaluates this byte count or checksum and determines the output status.

SRAM - The status field for the Static Random Access Memory (SRAM) contains a symbol indicating the status of the ACU Memory board. The inputs to the status field are based on the system reading to a location on a memory card. The system evaluates this information and tests for any Bus Errors which may occur to determine the output status.

5.3.17.4   **Execution**. - Refer to paragraph 5.3.1.4 execution procedures.

5.3.17.5   **Termination.** - Refer to paragraph 5.3.1.5 for the termination procedure.

5.3.17.6   **Restart.** - Refer to paragraph 5.3.1.6 for restart procedures.

5.3.17.7   **Outputs.** - Outputs of the ACU Memory Diagnostic Function are:

EPROM - The status field for the Erasable and Programmable Read Only Memory (EPROM) contains a symbol indicating the status of the ACU Memory board. The status field indicates a P if the system byte count or checksum is equal to the last byte in the EPROM. The status field indicates an F if the system byte count or checksum is not equal to the last byte in the EPROM.

```
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+)))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))),
*                                                                           *
*                      ACU MEMORY                                           *
*                                                                           *
*                                                                           *
*        EPROM              P                                               *
*                                                                           *
*                                                                           *
*        SRAM               P                                               *
*                                                                           *
*                                                                           *
*                                                                           *
*                                                                           *
*                                                                           *
*                                                              MEMORY       *
*                                                     +)))))0)))))0)))))1    
*                                                     *PRINT*CLEAR*      *   
*                                                     /)))))3)))))3)))))1    
*                                                     *TEST *      *    *    
*                                                     /)))))3)))))3)))))1    
*                                                     *EXIT *BACK *      *   
.)))))))))))))))))))))))))))))))))))))))))))))))))))))))2)))))2)))))2)))))-
```



```
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+)))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))),
*PRINT - PRINT THE CURRENT SCREEN ON THE ASOS PRINTER                       *
*                                                                           *
*CLEAR - CLEAR ALL COUNTERS FOR PASS/FAIL FIELDS ON THIS PAGE AND           *
*ALL PAGES SUMMARIZED BY THIS PAGE                                          *
*                                                                           *
*                                                                           *
*TEST  - RUN EXTENDED DIAGNOSTIC TEST(S) ON THE SELECTED DEVICE             *
***** W A R N I N G ****  THIS TEST MAY CAUSE TEMPORARY LOSS OF DATA        *
*                                                                           *
*                                                                           *
*                                                                           *
*                                                                           *
*EXIT  - RETURN THE USER TO THE ONE-MINUTE SCREEN                           *
*                                                                           *
*BACK  - RETURN THE USER TO THE PREVIOUS SCREEN / KEYPAD                    *
*                                                                           *
*                                                                           *
*                                                                           *
*                                                                           *
*                  PRESS HELP OR KEYPAD 0 TO EXIT HELP                      *
*                                                                           *
.)))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))-
```

Figure 5-22. Memory Page and System Help Screen

SRAM - The status field for the Static Random Access Memory (SRAM) contains a symbol indicating the status of the ACU Memory board. The status field indicates a P if the system does a read to a memory location and reports no bus errors. The status field indicates an F if the system, following a read to a memory location, reports any bus errors. The status field indicates a T if the Memory board test is in progress. The status field indicates an * if there is insufficient information.

5.3.17.8   **Interrelationship.** - Refer to paragraph 5.3.1.8 for interrelationship description.

5.3.18   **PSD Memory Diagnostic Function.**

The PSD Memory Diagnostic Function display indicates the status of the memory board in the system. This function is available only if the ABT and RTA are both configured in the system. Refer to figure 5-23 for the PSD Memory Page and the PSD Memory Page Help Screen.

5.3.18.1   **Execution Options.** - Refer to paragraph 5.3.1.2 and the following menu for execution options:

MENU COMMANDS

PSD MEMORY - Initiates the PSD Memory self-test. The status of the SRAM memory locations on the PSD Memory board is displayed at the completion of the self-test.

5.3.18.2   **User Inputs.** - There are no user inputs to the PSD Memory Diagnostic Function.

5.3.18.3   **System Inputs.** - System inputs to the PSD Memory Diagnostic Function are:

SRAM - The status field for the Static Random Access Memory (SRAM) contains a symbol indicating the status of the PSD Memory board. The inputs to the status field are based on the system reading to a location on a memory card. The system evaluates this information and tests for any Bus Errors which may occur to determine the output status.

5.3.18.4   **Execution.** - Refer to paragraph 5.3.1.4 for execution options.

5.3.18.5   **Termination**. - Refer to paragraph 5.3.1.5 for the termination procedure.

5.3.18.6   **Restart.** - Refer to paragraph 5.3.1.6 for restart procedures.

5.3.18.7   **Outputs.** - Outputs of the ACU Memory Diagnostic Function are:

SRAM - The status field for the Static Random Access Memory (SRAM) contains a symbol indicating the status of the PSD Memory board. The status field indicates a P if the system does a read to a memory location and reports no bus errors. The status field indicates an F if the system, following a read to a memory location, reports any bus errors. The status field indicates a T if the Memory board test is in progress.

5.3.18.8   **Interrelationship.** - Refer to paragraph 5.3.1.8 for interrelationship description.

5.3.19   **ACU Serial I/O Diagnostic Function.**

The ACU Serial Input/Output (I/O) Diagnostic Function displays indicate the status of the Serial I/O boards in the system. The display also presents the status of discrete functional areas on the Serial I/O boards. Using this display and the keypad, the Technician can designate a Serial I/O board and initiate a self-test of the ports for that Serial I/O board. Refer to figure 5-24 for the ACU Serial I/O Page and the ACU Serial I/O Page Help Screen.

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+))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))),
*                                                                              *
*                        PSD MEMORY                                            *
*                                                                              *
*                                                                              *
*                                                                              *
*                                                                              *
*                                                                              *
*        SRAM                P                                                 *
*                                                                              *
*                                                                              *
*                                                                              *
*                                                                              *
*                                                                              *
*                                                                              *
*                                                                 MEMORY       *
*                                                            +)))))0)))))0)))))1
*                                                            *PRINT*CLEAR*      *
*                                                            /)))))3)))))3)))))1
*                                                            *TEST *      *     *
*                                                            /)))))3)))))3)))))1
*                                                            *EXIT *BACK *      *
.)))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))2)))))2)))))2)))))-
```

```
11:21:56 07/04/96 1621Z                                          ANYTOWN AIRPORT
+))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))),
*PRINT - PRINT THE CURRENT SCREEN ON THE ASOS PRINTER                          *
*                                                                              *
*CLEAR - CLEAR ALL COUNTERS FOR PASS/FAIL FIELDS ON THIS PAGE AND              *
*ALL PAGES SUMMARIZED BY THIS PAGE                                             *
*                                                                              *
*                                                                              *
*TEST  - RUN EXTENDED DIAGNOSTIC TEST(S) ON THE SELECTED DEVICE                *
*****  W A R N I N G  ****  THIS TEST MAY CAUSE TEMPORARY LOSS OF DATA          *
*                                                                              *
*                                                                              *
*                                                                              *
*                                                                              *
*EXIT  - RETURN THE USER TO THE ONE-MINUTE SCREEN                              *
*                                                                              *
*BACK  - RETURN THE USER TO THE PREVIOUS SCREEN / KEYPAD                       *
*                                                                              *
*                                                                              *
*                                                                              *
*                                                                              *
*                   PRESS HELP OR KEYPAD 0 TO EXIT HELP                        *
*                                                                              *
.))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))-
```

Figure 5-23. PSD Memory Page and System Help Screen

```
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+))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))),
*                             LOOPBACK  XMIT ERR                              *
*                                                                            *
*               SIO #1                                                       *
*                PORT #1          P          P                               *
*                PORT #2          P          P                               *
*                PORT #3          P          P                               *
*                PORT #4          P          P                               *
*                                                                            *
*                                                                            *
*                                                                            *
*                                                                            *
*                                                                            *
*                                                                            *
*                                                            ACU SIO         *
*                                                    +)))))0)))))0)))))1
*                                                    *PRINT*CLEAR*      *
*                                                    /)))))3)))))3)))))1
*                                                    *TEST *      *      *
*                                                    /)))))3)))))3)))))1
*                                                    *EXIT *BACK *      *
.)))))))))))))))))))))))))))))))))))))))))))))))))))))))))2)))))2)))))2)))))-
```

```
11:21:56 07/04/96 1621Z                                      ANYTOWN AIRPORT
+))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))),
*PRINT - PRINT THE CURRENT SCREEN ON THE ASOS PRINTER                        *
*                                                                            *
*CLEAR - CLEAR ALL COUNTERS FOR PASS/FAIL FIELDS ON THIS PAGE AND            *
*ALL PAGES SUMMARIZED BY THIS PAGE                                           *
*                                                                            *
*                                                                            *
*TEST  - RUN EXTENDED DIAGNOSTIC TEST(S) ON THE SELECTED DEVICE              *
*****  W A R N I N G  ****  THIS TEST MAY CAUSE TEMPORARY LOSS OF DATA        *
*                                                                            *
*                                                                            *
*                                                                            *
*                                                                            *
*EXIT  - RETURN THE USER TO THE ONE-MINUTE SCREEN                            *
*                                                                            *
*BACK  - RETURN THE USER TO THE PREVIOUS SCREEN / KEYPAD                     *
*                                                                            *
*                                                                            *
*                                                                            *
*                                                                            *
*                  PRESS HELP OR KEYPAD 0 TO EXIT HELP                        *
*                                                                            *
.)))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))-
```

Figure 5-24. ACU Serial I/O Page and System Help Screen

There are up to eight Serial I/O boards that can be associated with the ACU. Since the Serial I/O boards function in exactly the same manner, the following description applies to all of the boards.

5.3.19.1   **Execution Options.** - Refer to paragraph 5.3.1.2 and the following menu commands for execution options.

MENU COMMANDS

ACU SIO - Initiates the SIO board self-test for that particular board. The status of the ports on that SIO board are displayed at the completion of the self-test. The functional areas performed include LOOPBACK, and XMIT ERRORS.

5.3.19.2   **User Inputs.** - There are no user inputs to the ACU Serial I/O Diagnostic Function.

5.3.19.3   **System Inputs.** - Refer to paragraph 5.3.1.3 for system inputs processing System inputs to the ACU Serial I/O Diagnostic Function are:

LOOPBACK - The LOOPBACK status fields for the Serial Ports contain symbols indicating the status of the serial ports for the Serial I/O boards. The inputs to the status fields are based on comparing what is written to the Universal Asynchronous Receiver/Transmitter (UART) and what is being read back from the UART during system test. The system evaluates this information and determines the output status.

XMIT ERRORS - The XMIT ERRORS status fields contain symbols indicating the status of the serial ports for the Serial I/O boards. The inputs to the status fields are based on what errors the Universal Asynchronous Receiver/Transmitter (UART) status register contains. Errors include Framing Errors, Parity Errors, and Overrun Errors. The system evaluates this information and determines the output status.

5.3.19.4   **Execution.** - Refer to paragraph 5.3.1.4 for execution procedures.

5.3.19.5   **Termination.** - Refer to paragraph 5.3.1.5 for the termination procedure.

5.3.19.6   **Restart.** - Refer to paragraph 5.3.1.6 for restart procedures.

5.3.19.7   **Outputs.** - Outputs of the ACU Serial I/O Diagnostic Function are:

LOOPBACK - The LOOPBACK status fields for the serial ports contain symbols indicating the status of the Serial I/O boards. The status fields indicate a P if the system reads back the same data that was written to the UART. The status field indicates an F if the system reads back different data than was written to the UART. The status field indicates a D when five or more loopback failures have occurred and are not currently failed. The status field indicates a T when test of the SIO board is in progress.

XMIT ERRORS - The XMIT ERRORS status fields for the serial ports contain symbols indicating the status for the Serial I/O boards. Errors observed include Framing Errors, Parity Errors, and Overrun Errors. The status fields indicate a P if the system has a limited number of errors during system test. The status field indicates an F if the system detects numerous errors during system test. The status field indicates a T when test of the SIO board is in progress.

5.3.19.8   **Interrelationship.** - Refer to paragraph 5.3.1.8 for interrelationship description.

5.3.20   **ACU A/D Converter Diagnostic Function.**

The ACU Analog/Digital (A/D) Diagnostic Function display indicates the status of the A/D Converter boards in the system. The display also presents the status of discrete functional areas on the A/D Converter boards. Using this display and the keypad, the Technician can designate an A/D Converter board and initiate a self-test of the functional areas on the selected A/D Converter board. Refer to figure 5-25 for the A/D Page and the A/D Page Help Screen.

5.3.20.1   **Execution Options.** -Refer to paragraph 5.3.1.2 for execution options.

5.3.20.2   **User Inputs.** - There are no user inputs to the A/D Converter Diagnostic Function.

5.3.20.3   **System Inputs.** - Refer to paragraph 5.3.1.3 for system inputs processing. System inputs to the A/D Converter Diagnostic Function are:

REGISTER READBACK - The status field for the Register Readback contains a symbol indicating the status for the A/D Converter boards for the ACU. The inputs to the status field are based on the ability to read and write to the register which appears in a chip on the A/D Converter board. The system evaluates this process and determines the output status.

REFERENCE VOLTAGE - The status field for the Reference Voltage contains a symbol indicating the status for the A/D Converter boards for the ACU. The inputs to the status field are based on the power supply needed on each of the A/D Converter boards within tolerance. The system evaluates this power supply and determines the output status.

5.3.20.4   **Execution.** - Refer to paragraph 5.3.1.4 for execution procedures.

5.3.20.5   **Termination.** - Refer to paragraph 5.3.1.5 for termination procedure.

5.3.20.6   **Restart.** - Refer to paragraph 5.3.1.6 for restart procedures.

5.3.20.7   **Outputs.** - Refer to paragraph 5.3.1.7 for outputs processing. Outputs of the A/D Converter Diagnostic Function are:

REGISTER READBACK - The status field for the Register Readback contains a symbol indicating the status for the A/D Converter boards for the ACU. The status field indicates a P if successful in reading and writing to the register on the A/D Converter board. The status field indicates an F if not successful in reading and writing to the register. The status field indicates a T if the Register Readback test is in progress.

REFERENCE VOLTAGE - The status field for the Reference Voltage contains a symbol indicating the status for the A/D Converter boards for the ACU. The status field indicates a P if the measurement of the power supply is within tolerance. The status field may indicate an F if the measurement of the power supply is not within tolerance. The status field indicates a T if the Reference Voltage test is in progress.

5.3.20.8   **Interrelationship.** - Refer to paragraph 5.3.1.8 for interrelationship description.

```
21:56 07/04/96 1621Z                                          ANYTOWN AIRPORT
+)))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))),
*                    ACU                                                    *
*                                                                           *
*                                                                           *
* REGISTER                                                                  *
*   READBACK         P                                                      *
*                                                                           *
* REFERENCE                                                                 *
*   VOLTAGE          P                                                      *
*                                                                           *
*                                                                           *
*                                                                           *
*                                                              A/D          *
*                                                     +)))))0)))))0)))))1
*                                                     *PRINT*CLEAR*      *
*                                                     /)))))3)))))3)))))1
*                                                     *TEST *      *    *
*                                                     /)))))3)))))3)))))1
*                                                     *EXIT *BACK *      *
.)))))))))))))))))))))))))))))))))))))))))))))))))))))2)))))2)))))2)))))-
```

```
11:21:56 07/04/96 1621Z                                       ANYTOWN AIRPORT
+)))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))),
*PRINT - PRINT THE CURRENT SCREEN ON THE ASOS PRINTER                       *
*                                                                           *
*CLEAR - CLEAR ALL COUNTERS FOR PASS/FAIL FIELDS ON THIS PAGE AND           *
*ALL PAGES SUMMARIZED BY THIS PAGE                                          *
*                                                                           *
*                                                                           *
*TEST  - RUN EXTENDED DIAGNOSTIC TEST(S) ON THE SELECTED DEVICE             *
*****  W A R N I N G  ****   THIS TEST MAY CAUSE TEMPORARY LOSS OF DATA      *
*                                                                           *
*                                                                           *
*                                                                           *
*EXIT  - RETURN THE USER TO THE ONE-MINUTE SCREEN                           *
*                                                                           *
*BACK  - RETURN THE USER TO THE PREVIOUS SCREEN / KEYPAD                    *
*                                                                           *
*                                                                           *
*                                                                           *
*                     PRESS HELP OR KEYPAD 0 TO EXIT HELP                   *
*                                                                           *
.)))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))-
```

Figure 5-25. A/D Page and System Help Screen

5.3.21   **ACU A/D Resistor Diagnostic Function.**

The ACU A/D Resistor Diagnostic Function indicates the overall status of the ACU A/D Resistor in the system. There is no additional display for this function. The status field may indicate P (Pass), F (Fail), C (Caution), T (Test), or * (insufficient information).

5.3.22   **ACU Digital I/O Diagnostic Function.**

The ACU Digital I/O Diagnostic Function indicates the overall status of the ACU Digital I/O Converter boards in the system. There is no additional display for this function.

5.3.23   **ACU Video Controller Diagnostic Function.**

The ACU Video Controller Diagnostic Function display indicates the status of the Video board in the system. The display also presents the status of discrete functional areas on the Video board. Using this display and the keypad, the technician can initiate a self-test on the Video board. Refer to figure 5-26 for the Video Page and the Video Page Help Screen.

5.3.23.1   **Execution Options.** - Refer to paragraph 5.3.1.2 for executions options.

5.3.23.2   **User Inputs.** - There are no user inputs to the Video Controller Diagnostic Function.

5.3.23.3   **System Inputs.** - Refer to paragraph 5.3.1.3 for system inputs processing. System inputs to the Video Controller Diagnostic Function are:

CRT CONTROLLER READBACK - The status field for the Cathode Ray Tube (CRT) Controller Readback contains a symbol indicating the status of this area of the video board. The inputs to the status field are based on the system writing to a register on the video board and reading back what was written. The system evaluates the information and determines the output status.

PARALLEL I/F TIMER READBACK - The status field for the Parallel Interface (I/F) Timer Readback contains a symbol indicating the status of this area of the video board. The inputs to the status field are based on a comparison of what was written to the video board and what the system reads during the test. The system evaluates the information and determines the output status.

LOOPBACK #1 and #2 - The LOOPBACK #1 and #2 status fields contain symbols indicating the status of a chip in the video board. The inputs to the status field are based on a comparison of what was written to the video board and what the system reads during the test. The system evaluates the information and determines the output status.

RT CLOCK READBACK - The status field for the Real-Time (RT) Clock Readback contains a symbol indicating the status of this area of the video board. The inputs to the status field are based on the system reading back numbers from a RT Clock chip and these numbers must be within a given range. The system evaluates the numbers and determines the output status.

5.3.23.4   **Execution.** - Refer to paragraph 5.3.1.4 for execution procedures.

5.3.23.5   **Termination.** - Refer to paragraph 5.3.1.5 for termination procedure.

5.3.23.6   **Restart.** - Refer to paragraph 5.3.1.6 for restart procedures.

```
11:21:56 07/04/96 1621Z                                            ANYTOWN AIRPORT
+)))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))),
*                                                                                *
*                                                                                *
*   CRT CONTROLLER READBACK        P                                             *
*                                                                                *
*   PARALLEL I/F TIMER READBACK    P                                             *
*                                                                                *
*   LOOPBACK #1                    P                                             *
*                                                                                *
*   LOOPBACK #2                    P                                             *
*                                                                                *
*   RT CLOCK READBACK              P                                             *
*                                                                                *
*                                                                                *
*                                                            GRAPHICS      *
*                                                        +)))))0)))))0)))))1
*                                                        *PRINT*CLEAR*     *
*                                                        /)))))3)))))3)))))1
*                                                        *TEST *     *     *
*                                                        /)))))3)))))3)))))1
*                                                        *EXIT *BACK *     *
.)))))))))))))))))))))))))))))))))))))))))))))))))))))))2)))))2)))))2)))))-



11:21:56 07/04/96 1621Z                                            ANYTOWN AIRPORT
+)))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))),
*PRINT - PRINT THE CURRENT SCREEN ON THE ASOS PRINTER                            *
*                                                                                *
*CLEAR - CLEAR ALL COUNTERS FOR PASS/FAIL FIELDS ON THIS PAGE AND                *
*ALL PAGES SUMMARIZED BY THIS PAGE                                               *
*                                                                                *
*                                                                                *
*TEST  - RUN EXTENDED DIAGNOSTIC TEST(S) ON THE SELECTED DEVICE                  *
*****  W A R N I N G  ****  THIS TEST MAY CAUSE TEMPORARY LOSS OF DATA           *
*                                                                                *
*                                                                                *
*                                                                                *
*EXIT  - RETURN THE USER TO THE ONE-MINUTE SCREEN                                *
*                                                                                *
*BACK  - RETURN THE USER TO THE PREVIOUS SCREEN / KEYPAD                         *
*                                                                                *
*                                                                                *
*                    PRESS HELP OR KEYPAD 0 TO EXIT HELP                         *
*                                                                                *
.)))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))-
```

Figure 5-26. Video Page and System Help Screen

5.3.23.7   **Outputs.** - Refer to paragraph 5.3.1.7 for outputs processing. Outputs of the Video Controller Diagnostic Function are:

CRT CONTROLLER READBACK - The status field for the Cathode Ray Tube (CRT) Controller Readback contains a symbol indicating the status of this area of the video board. The status field indicates a P if the system reads back the same data that was written to a register on the video board. The status field indicates an F if the system does not readback the same data that was written to a register on the video board. The status field indicates a T if the Video board test is in progress.

PARALLEL I/F TIMER READBACK - The status field for the Parallel Interface (I/F) Timer Readback contains a symbol indicating the status of this area of the video board. The status field indicates a P if the system reads back the same data that was written to the video board. The status field indicates an F if the system does not readback the same data that was written to the video board. The status field indicates a T if the Video board test is in progress.

LOOPBACK #1 and #2 - The LOOPBACK #1 and #2 status fields contain symbols indicating the status of a chip in the video board. The status field indicates a P if the system reads back the same data that was written to the video board. The status field indicates an F if the system does not readback the same data that was written to the video board. The status field indicates a T if the Video board test is in progress.

RT CLOCK READBACK - The status field for the Real-Time (RT) Clock Readback contains a symbol indicating the status of this area of the video board. The status field indicates a P if the system reads back the same data from a RT Clock chip within a range during test. The status field indicates an F if the system does not readback the same data from a RT Clock chip within a given range during test. The status field indicates a T if the Video board test is in progress.

5.3.23.8   **Interrelationship.** - Refer to paragraph 5.3.1.8 for interrelationship description.

5.3.24   **ACU Voice Processor Diagnostic Function.**

The ACU Voice Processor #1 and #2 Diagnostic Functions display indicates the status of the CPU and Audio boards in the system. The display also presents the status of discrete functional areas on the test boards. Using this display and the keypad, the Technician can initiate a self-test of the functional areas on the test boards. Refer to figure 5-27 for the Voice Page and the Voice Page Help Screen.

5.3.24.1   **Execution Options.** - Refer to paragraph 5.3.1.2 for execution options.

5.3.24.2   **User Inputs.** - There are no user inputs to the Voice Processor #1 and #2 Diagnostic Function.

5.3.24.3   **System Inputs.** - Refer to paragraph 5.3.1.3 for systems inputs processing. System inputs to the Voice Processor #1 and #2 Diagnostic Function are:

CPU   - The status field for the Central Processing Unit (CPU) contains a symbol indicating the status of the CPU board. The inputs to the status field are based on a digital input received from the A/D Converter to indicate the status of the board. The system evaluates this information and determines the output status.

AUDIO OUTPUT - The status field for the Audio Output contains a symbol indicating the status for the Voice Processor Function. The inputs to the status field are based on an internal audio test which checks that the audio circuits are functioning. The system evaluates this information and determines the output status.

```
   11:21:56 07/04/96 1621Z                                               ANYTOWN AIRPORT
      +))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))),
   *                                                                                    *
   *                                                                                    *
   *                                                                                    *
   *     CPU              P                                                              *
   *                                                                                    *
   *     AUDIO OUTPUT     P                                                              *
   *                                                                                    *
   *     AUDIO STATUS     F                                                              *
   *                                                                                    *
   *     TIMEOUT          T                                                              *
   *                                                                                    *
   *                                                                                    *
   *                                                                                    *
   *                                                                                    *
   *                                                              VOICE       *
    *                                                          +)))))0)))))0)))))1
   *                                                          *PRINT*CLEAR*     *
    *                                                          /)))))3)))))3)))))1
   *                                                          *TEST *      *     *
    *                                                          /)))))3)))))3)))))1
   *                                                          *EXIT *BACK *     *
      .))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))2)))))2)))))2)))))-
```

```
   11:21:56 07/04/96 1621Z                                               ANYTOWN AIRPORT
      +))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))),
   *PRINT - PRINT THE CURRENT SCREEN ON THE ASOS PRINTER                                *
   *                                                                                    *
   *CLEAR - CLEAR ALL COUNTERS FOR PASS/FAIL FIELDS ON THIS PAGE AND                    *
   *ALL PAGES SUMMARIZED BY THIS PAGE                                                   *
   *                                                                                    *
   *                                                                                    *
   *TEST  - RUN EXTENDED DIAGNOSTIC TEST(S) ON THE SELECTED DEVICE                      *
   *****  W A R N I N G  ****  THIS TEST MAY CAUSE TEMPORARY LOSS OF DATA               *
   *                                                                                    *
   *                                                                                    *
   *                                                                                    *
   *                                                                                    *
   *                                                                                    *
   *EXIT  - RETURN THE USER TO THE ONE-MINUTE SCREEN                                    *
   *                                                                                    *
   *BACK  - RETURN THE USER TO THE PREVIOUS SCREEN / KEYPAD                             *
   *                                                                                    *
   *                                                                                    *
   *                                                                                    *
   *                                                                                    *
   *                     PRESS HELP OR KEYPAD 0 TO EXIT HELP                            *
   *                                                                                    *
      .))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))-
```

Figure 5-27. Voice Page and System Help Screen

AUDIO STATUS - The Audio Status field contains a symbol indicating the status of the Audio board. The inputs to the status field are based on a digital input received from the A/D Converter to indicate the status of the board. The system evaluates this information and determines the output status.

TIMEOUT - The status field for the Watchdog Timer contains a symbol indicating the status of the voice processor. The inputs to the status field are based on a response by the voice processor. The response determines the output status.

5.3.24.4   **Execution.** - Refer to paragraph 5.3.1.4 for execution procedures.

5.3.24.5   **Termination.** - Refer to paragraph 5.3.1.5 for the termination procedure.

5.3.24.6   **Restart.** - Refer to paragraph 5.3.1.6 for restart procedures.

5.3.24.7   **Outputs.** - Refer to paragraph 5.3.1.7 for outputs processing. Outputs of the Voice Processor #1 and #2 Diagnostic Function are:

CPU   - The status field for the Central Processing Unit (CPU) contains a symbol indicating the status of the CPU board. The status field indicates a P if the digital input received from the A/D Converter is a 0, which shows the CPU board as passing. The status field indicates an F if the digital input received from the A/D Converter is a 1, which shows the CPU board as failing. The status field indicates a T if the CPU test is in progress.

AUDIO OUTPUT - The status field for the Audio Output contains a symbol indicating the status for the Voice Processor Function. The status field indicates a P if the internal test shows the audio circuits to be functioning. The status field indicates an F if the internal test shows the audio circuits not to be functioning. The status field indicates a T if the internal test is in progress.

AUDIO STATUS - The Audio Status Field contains a symbol indicating the status of the Audio board. The status field indicates a P if the digital input received from the A/D Converter is a 0, which shows the Audio board as passing. The status field indicates an F if the digital input received from the A/D Converter is a 1, which shows the Audio board as failing. The status field indicates a T if the Audio test is in progress.

TIMEOUT - The status field for the Timeout contains a symbol indicating the status of the Voice Processor. The status field indicates a P if the voice processor has responded to a data request from the voice self-test program. The status field indicates an F if the voice processor has not responded to a data request from the voice self-test program. The status field indicates a T if the test is in progress.

5.3.24.8   **Interrelationship.** - Refer to paragraph 5.3.1.8 for interrelationship description.

5.3.25   **ACU Modem Rack Diagnostic Function.**

The ACU Modem Rack Diagnostic Function provides maintenance personnel with the capability to perform a confidence test on each configured modem in the ASOS. Refer to figure 5-28 for the ACU Modem Page and the ACU Modem Page Help Screen. Modems are not included in the routine testing of system components. This function performs modem testing on demand, but should be used with caution as tests interrupt normal system communications.

5.3.25.1 **Execution Options.** - Refer to paragraph 5.3.1.2 and the following menu commands for the execution options.

```
  11:21:56 07/04/96 1621Z                                          ANYTOWN AIRPORT
     +))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))),
  *    MODEM       PORT        MODEM NAME        STATUS  FAILCOUNT                  *
  *                                                                                 *
  *    # 1         2-3         OID-4 USER #1       P                                *
  *    # 2         3-3         OID-5 USER #2       P                                *
  *    # 3         4-4         AFOS PHONE          P                                *
  *    # 4         7-4         OID-6 USR SPR #1    P                                *
  *    # 5         8-1         OID-7 USR SPR #2    P                                *
  *    # 6         8-2         OID-8 SPARE         P                                *
  *    # 7                                                                          *
  *    # 8                                                                          *
  *    # 9                                                                          *
  *    #10                                                                          *
  *    #11                                                                          *
  *    #12                                                                          *
  *    #13                                                              ACU MODEM   *
   *   #14                                                      +)))))0)))))0)))))1
  *                                                             * PRINT*CLEAR*PRE *
   *   #15                                                      /)))))3)))))3)))))1
  *    #16                                                      *TEST *     *     *
   *                                                            /)))))3)))))3)))))1
  *                                                             *EXIT *BACK *NEXT *
     .)))))))))))))))))))))))))))))))))))))))))))))))))))))))))))2)))))2)))))2)))))-
```

```
  11:21:56 07/04/96 1621Z                                          ANYTOWN AIRPORT
     +))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))),
  *PRINT - PRINT THE CURRENT SCREEN ON THE ASOS PRINTER                             *
  *                                                                                 *
  *CLEAR - CLEAR ALL COUNTERS FOR PASS/FAIL FIELDS ON THIS PAGE AND                 *
  *ALL PAGES SUMMARIZED BY THIS PAGE                                                *
  *PRE  - MOVE THE CURSOR TO THE PREVIOUS FIELD                                     *
  *                                                                                 *
  *TEST  - RUN EXTENDED DIAGNOSTIC TEST(S) ON THE SELECTED DEVICE                   *
  ***** W A R N I N G **** THIS TEST MAY CAUSE TEMPORARY LOSS OF DATA              *
  *                                                                                 *
  *                                                                                 *
  *                                                                                 *
  *                                                                                 *
  *EXIT  - RETURN THE USER TO THE ONE-MINUTE SCREEN                                 *
  *                                                                                 *
  *BACK  - RETURN THE USER TO THE PREVIOUS SCREEN / KEYPAD                          *
  *                                                                                 *
  *NEXT  - MOVE THE CURSOR TO THE NEXT FIELD                                        *
  *                                                                                 *
  *                                                                                 *
  *                   PRESS HELP OR KEYPAD 0 TO EXIT HELP                           *
  *                                                                                 *
     .)))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))-
```

Figure 5-28. ACU Modem Page and System Help Screen

MENU COMMANDS

Each of the following modems may be tested and result in a pass (P), fail (F), degraded (D) status and a failure count, or insufficient information (*):

OID-4 USER #1 - Initiates the test for #1 modem. The status of the test is displayed at the completion of the test. The test performed is a Loop integrity verification.

OID-5 USER #2 - Initiates the test for #2 modem. The status of the test is displayed at the completion of the test. The test performed is a Loop integrity verification.

AFOS PHONE - Initiates the test for #3 modem. The status of the test is displayed at the completion of the test. The test performed is a Loop integrity verification.

OID-6 USR SPR #1 - Initiates the test for #4 modem. The status of the test is displayed at the completion of the test. The test performed is a Loop integrity verification.

OID-7 USR SPR #2 - Initiates the test for #5 modem. The status of the test is displayed at the completion of the test. The test performed is a Loop integrity verification.

OID-8 SPARE - Initiates the test for #6 modem. The status of the test is displayed at the completion of the test. The test performed is a Loop integrity verification.

> **NOTE:**   Remaining modem numbers (#7 through #16) are for future expansion capability. If the modem connection is designated as LINE DRIVER or LEASED LINE on the REVUE-SITE-CONFG-COMMS screen then the modem is not displayed on the modem screen.

5.3.25.2   **User Inputs.** - There are no user inputs to the Modem Rack Diagnostic Function.

5.3.25.3   **System Inputs.** - Refer to paragraph 5.3.1.3 for system inputs processing. System inputs to the Modem Rack Diagnostic Function are:

Results of modem self-tests. This is performed on-demand by the user. The results are placed in the STATUS field for the appropriate modem and are interpreted as pass (P), fail (F), degraded (D), or insufficient information (*).

5.3.25.4   **Execution.** - The procedures for executing the Modem Rack Diagnostic Function are described in paragraph 5.3.1.4 and the shown by the following:

>   a.   If a test of modem OID-4 USER #1 is desired:
>
>   1.   Using the PREV/NEXT keys, place the cursor on the MODEM NAME field of interest (OID-4 USER #1).
>
>   2.   Press the TEST key.
>
>   **WARNING:**   A modem test will interrupt normal operations, so caution is recommended when performing these tests.

3.   The associated status field immediately changes to a T, representing testing in progress. When the modem self-test is completed, the resultant status of P, F, D, or * is displayed.

Other modems are tested in the same manner as above.

    b.   If return to the ACU sensor status page is desired, press the BACK key.

    c.   If return to the one-minute status page is desired, press the EXIT key.

5.3.25.5   **Termination.** - Refer to paragraph 5.3.1.5 for the termination procedure.

5.3.25.6   **Restart.** - Refer to paragraph 5.3.1.6 for restart procedures.

5.3.25.7   **Outputs.** - Refer to paragraph 5.3.1.7 for outputs processing. Outputs of the Modem Rack Diagnostic Function are:

STATUS - This status field associated with each modem contains the results of the Modem self-test; P for pass, F for fail, or D for degraded.

FAILCOUNT - This status field associated with each modem contains a count of modem failures as the result of Modem self-test.

5.3.25.8   **Interrelationship.** - Refer to 5.3.1.8 for interrelationship description.

5.3.26   **ACU Power Diagnostic Function.**

The ACU Power Diagnostic Function Display indicates the status of all power-related functions within the ACU. The display also enables the technician to perform an on-demand diagnostic test of the all power supplies within the ACU. Refer to figure 5-29 for the ACU Power Page and the ACU Power Page Help Screen. Refer to figure 5-30 for the ACU Power Page in Single Cabinet Mode.

5.3.26.1   **Execution Options.** - Refer to paragraph 5.3.1.2 for execution options.

5.3.26.2   **User Inputs.** - There are no user inputs to the ACU Power Diagnostic Function.

5.3.26.3   **System Inputs.** - Refer to paragraph 5.3.1.3 for system inputs processing. System inputs to the ACU Power Diagnostic Function are:

Power supply status information for the following ACU power supplies is updated during diagnostic execution.

```
 11:21:56 07/04/96 1621Z                                    ANYTOWN AIRPORT
    +))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))),
 *                         POWER SUPPLIES:                                  *
 *                                                                          *
 *  +2.5 REFERENCE         P                      POWER SUPPLY A      P      *
 *  +5 SUPPLY VOLTS        P                      POWER SUPPLY B      P      *
 *                                                                          *
 * +12 SUPPLY VOLTS        P                                                *
 *                                                                          *
 * -12 SUPPLY VOLTS        P                                                *
 *                                                                          *
 *  +5 VME RACK            P                                                *
 * +12 VME RACK            P                                                *
 * -12 VME RACK            P                                                *
 *  +5 RADIO A             P                                                *
 *  +5 RADIO B             P                                                *
 * +12 RADIO A             P                                      ACU PWR    *
 * +12 RADIO B              P                             +)))))0)))))0)))))1
 * -12 RADIO A             P                             *PRINT*CLEAR*      *
 * -12 RADIO B              P                            /)))))3)))))3)))))1
 *                                                      *TEST *      *      *
 *                                                      /)))))3)))))3)))))1
 *                                                      *EXIT *BACK *      *
    .)))))))))))))))))))))))))))))))))))))))))))))))))))))))))2)))))2)))))2)))))-


 11:21:56 07/04/96 1621Z                                    ANYTOWN AIRPORT
    +))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))),
*PRINT - PRINT THE CURRENT SCREEN TO THE ASOS PRINTER                       *
*                                                                           *
*CLEAR - CLEAR ALL COUNTERS FOR PASS/FAIL FIELDS ON THIS PAGE AND           *
*ALL PAGES SUMMARIZED BY THIS PAGE                                          *
*                                                                           *
*                                                                           *
*TEST  - RUN EXTENDED DIAGNOSTIC TEST(S) ON THE SELECTED DEVICE             *
*****  W A R N I N G  ****  THIS TEST MAY CAUSE TEMPORARY LOSS OF DATA       *
*                                                                           *
*                                                                           *
*                                                                           *
*                                                                           *
*                                                                           *
*                                                                           *
*EXIT  - RETURN THE USER TO THE ONE-MINUTE SCREEN                           *
*                                                                           *
*BACK  - RETURN THE USER TO THE PREVIOUS SCREEN / KEYPAD                    *
*                                                                           *
*                                                                           *
*                   PRESS HELP OR KEYPAD 0 TO EXIT HELP                     *
*                                                                           *
    .))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))-
```

Figure 5-29. ACU Power Page and System Help Screen

```
  11:21:56 07/04/96 1621Z                                                    ANYTOWN AIRPORT
     +))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))),
   *                                      POWER SUPPLIES:                                  *
   *                                                                                       *
   *  +2.5 REFERENCE          P                                                            *
   *   +5 SUPPLY #1 VOLTS     P                                                            *
   *   +5 SUPPLY #2 VOLTS     P                                                            *
   * +12 SUPPLY #1 VOLTS      P                                                            *
   * +12 SUPPLY #2 VOLTS      P                                                            *
   * -12 SUPPLY #2 VOLTS      P                                                            *
   * -12 SUPPLY #2 VOLTS      P                                                            *
   * +12 VME RACK             P                                                            *
   * -12 VME RACK             P                                                            *
   * -12 VME RACK             P                                                            *
   *                                                                                       *
   *                                                                                       *
   *                                                                    ACU PWR        *
    *                                                          +)))))0)))))0)))))1
   *                                                          *PRINT*CLEAR*        *
    *                                                          /)))))3)))))3)))))1
   *                                                          *TEST *      *     *
    *                                                          /)))))3)))))3)))))1
   *                                                          *EXIT *BACK *      *
    .)))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))2)))))2)))))2)))))-
```

Figure 5-30. ACU Power Page in Single Cabinet Mode

Note: If a modem connection is designated as a LINE DRIVER on the REVUE-SITE-CONFG-COMMS screen then it is not displayed on the power page.

SUPPLY	STATUS	SINGLE CABINET MODE	
+2.5 REFERENCE	P	+2.5 REFERENCE	P
+5 SUPPLY VOLTS	P	+5 SUPPLY # 1 VOLTS	P
+12 SUPPLY VOLTS	P	+5 SUPPLY # 2 VOLTS	P
-12 SUPPLY VOLTS	P	+12 SUPPLY VOLTS	P
+5 VME RACK	P	+12 SUPPLY VOLTS	P
+12 VME RACK	P	- 12 SUPPLY # 1 VOLTS	P
-12 VME RACK	P	- 12 SUPPLY # 2 VOLTS	P
+5 RADIO A	P	+12 VME RACK	P
+5 RADIO B	P	- 12 VME RACK	P
+12 RADIO A	P		
+12 RADIO B	P		
-12 RADIO A	P		
-12 RADIO B	P		
POWER SUPPLY A	P		
POWER SUPPLY B	P		

The status field indicates whether or not the data being received from the power supply is valid (logically correct) when compared to the standard specified in the data quality monitoring algorithm.

5.3.26.4   **Execution.** - Refer to paragraph 5.3.1.4 for execution procedures.

5.3.26.5   **Termination.** - Refer to paragraph 5.3.1.5 for the termination procedure.

5.3.26.6   **Restart.** - Refer to paragraph 5.3.1.6 for restart procedures.

5.3.26.7   **Outputs.** - Refer to paragraph 5.3.1.7 for outputs processing. Outputs of the ACU Power Diagnostic Function are:

Power supply status information for the following ACU power supplies is updated during diagnostic execution:

SUPPLY	STATUS	SINGLE CABINET MODE	
+2.5 REFERENCE	P	+2.5 REFERENCE	P
+5 SUPPLY VOLTS	P	+5 SUPPLY # 1 VOLTS	P
+12 SUPPLY VOLTS	P	+5 SUPPLY # 2 VOLTS	P
-12 SUPPLY VOLTS	P	+12 SUPPLY VOLTS	P
+5 VME RACK	P	+12 SUPPLY VOLTS	P
+12 VME RACK	P	- 12 SUPPLY # 1 VOLTS	P
-12 VME RACK	P	- 12 SUPPLY # 2 VOLTS	P
+5 RADIO A	P	+12 VME RACK	P
+5 RADIO B	P	- 12 VME RACK	P
+12 RADIO A	P		
+12 RADIO B	P		
-12 RADIO A	P		
-12 RADIO B	P		
POWER SUPPLY A	P		
POWER SUPPLY B	P		

The status field indicates whether or not the data being received from the power supply is valid (logically correct) when compared to the standard specified in the data quality monitoring algorithm.

5.3.26.8   **Interrelationship.** - Refer to paragraph 5.3.1.8 for interrelationship description.

5.3.27   **ACU Uninterruptible Power Supply (UPS) Diagnostic Function.**

The ACU Uninterruptible Power Supply (UPS) Diagnostic Function Display indicates the status of UPS functions within the ACU. The display also enables the technician to perform an on-demand diagnostic test of the primary UPS within the ACU. Refer to figure 5-31 for the SOLA ACU UPS Page, figure 5-32 for the DELTEC ACU UPS Page, and figure 5-33 for the ACU UPS Page Help Screen.

5.3.27.1   **Execution Options.** - Refer to paragraph 5.3.1.2 for execution options.

```
 11:21:56 07/04/96 1621Z                                               ANYTOWN AIRPORT
    +)))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))),
 *                                                                                   *
 *                                                                                   *
 *                                                                                   *
 *                                                                                   *
 *  BATTERY VOLTAGE:              67                                                  *
 *                                                                                   *
 *  INPUT VOLTAGE:              116                                                   *
 *                                                                                   *
 *  OUTPUT VOLTAGE:             116              UPS INLINE:            P             *
 *                                              CMD UPS INLINE:         ON            *
 *  OUTPUT ENABLED:          P                                                        *
 *  ON AC LINE:              P                                                        *
 *  BATTERY STATUS:          P                                                        *
 *  TRIAC STATUS:            P                                                        *
 *  TEMPERATURE:             P                                          ACU UPS       *
 *   RS232 STATUS:             P                               +)))))0)))))0)))))1
 *                                                             *PRINT*CLEAR*      *
 *   TIMEOUT:                  P                               /)))))3)))))3)))))1
 *                                                             *TEST *     *BYPAS*
 *                                                             /)))))3)))))3)))))1
 *                                                             *EXIT *BACK *      *
    .))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))2)))))2)))))2)))))-
```

Figure 5-31. SOLA UPS ACU Page

```
 11:21:56 07/04/96 1621Z                                               ANYTOWN AIRPORT
    +)))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))),
 *                                                                                   *
 *                                                                                   *
 *                                                                                   *
 *                                                                                   *
 *  BATTERY VOLTAGE:              53              BATTERY  MANAGEMENT:  FLOATING *
 *                                                                                   *
 *  INPUT VOLTAGE:              116               LINE REGULATION:      NORMAL  *
 *                                                                                   *
 *  OUTPUT VOLTAGE:             116               UPS INLINE:           P        *
 *                                                CMD UPS INLINE:       ON       *
 *  UPS OPERATION:           P                                                        *
 *  ON AC LINE:              P                                                        *
 *  BATTERY STATUS:          P                                                        *
 *  INVERTER:                P                                                        *
 *  GROUND STATUS:           P                                          ACU UPS       *
 *   UTILITY:                  P                               +)))))0)))))0)))))1
 *                                                             *PRINT*CLEAR*      *
 *   TIMEOUT:                  P                               /)))))3)))))3)))))1
 *                                                             *TEST *     *BYPAS*
 *                                                             /)))))3)))))3)))))1
 *                                                             *EXIT *BACK *      *
    .))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))2)))))2)))))2)))))-
```

Figure 5-32. Deltec UPS ACU Page

```
   11:21:56 07/04/96 1621Z                                             ANYTOWN AIRPORT
       +)))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))),
    *PRINT - PRINT THE CURRENT SCREEN ON THE ASOS PRINTER                               *
    *                                                                                   *
    *CLEAR - CLEAR ALL COUNTERS FOR PASS/FAIL FIELDS ON THIS PAGE AND                   *
    *ALL PAGES SUMMARIZED BY THIS PAGE                                                  *
    *                                                                                   *
    *                                                                                   *
    *TEST  - RUN EXTENDED DIAGNOSTIC TEST(S) ON THE SELECTED DEVICE                     *
    *****  W A R N I N G  ****  THIS TEST MAY CAUSE TEMPORARY LOSS OF DATA              *
    *                                                                                   *
    *                                                                                   *
    *                                                                                   *
    *                                                                                   *
    *                                                                                   *
    *                                                                                   *
    *EXIT  - RETURN THE USER TO THE ONE-MINUTE SCREEN                                   *
    *                                                                                   *
    *BACK  - RETURN THE USER TO THE PREVIOUS SCREEN / KEYPAD                            *
    *                                                                                   *
    *                                                                                   *
    *                      PRESS HELP OR KEYPAD 0 TO EXIT HELP                          *
    *                                                                                   *
       .)))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))-
```

Figure 5-33. UPS ACU Page Help Screen

5.3.27.2 **User Inputs.** - There are no user inputs to the ACU Uninterruptible Power Supply (UPS) Diagnostic Function.

5.3.27.3 **System Inputs.** - Refer to paragraph 5.3.1.3 for system inputs processing. System inputs to the ACU UPS Diagnostic Function are:

5.3.27.3.1 *SOLA UPS.*

BATTERY VOLTAGE - The battery voltage field contains a numeric value indicating the overall status of the battery voltage. The inputs for the output field are based in the UPS circuitry which determines the overall value of the battery voltage.

INPUT VOLTAGE - The status field for the input voltage contains a numeric value indicating the overall status of the input voltage. The inputs for the output field are based in the UPS circuitry which determines the overall values of the input voltage.

OUTPUT VOLTAGE - The output field for the output voltage value contains a numeric value indicating the present ac output voltage being supplied to the ACU. The inputs for the output field are based on the UPS circuitry which determines the output voltage supplied by the UPS.

OUTPUT ENABLED - The status field for the output enabled contains a symbol indicating the present output voltage being supplied to the ACU.

ON AC LINE - The status field for the on ac line contains the present status of the UPS voltage being supplied to the ACU. The status is P if on A/C or F if on battery. The inputs for the output field are based on the UPS circuitry which determines the output voltage supplied by the UPS.

BATTERY STATUS - The status field for the battery status contains a symbol indicating the present battery condition in the ACU.

TRIAC STATUS - The status field for the triac status contains a symbol indicating the present status.

TEMPERATURE - The status field for temperature contains a symbol indicating the present temperature status in the ACU.

RS232 STATUS - The status field for the RS232 status contains a symbol indicating the present of the ACU RS232 serial communications.

TIMEOUT - The status field for the Watchdog Timer status contains a symbol indicating the present status of the UPS COMMS.

UPS INLINE - The status field for the UPS bypass displays P when UPS is inline or F when UPS is bypassed.

CMD UPS INLINE - The command field for the UPS bypass bypasses UPS when set to OFF or places UPS inline when set to ON.

5.3.27.3.2   *Deltec UPS.*

BATTERY VOLTAGE - The battery voltage field contains a numeric value indicating the overall status of the battery voltage. The inputs for the output field are based in the UPS circuitry which determines the overall value of the battery voltage.

INPUT VOLTAGE - The status field for the input voltage contains a numeric value indicating the overall status of the input voltage. The inputs for the output field are based in the UPS circuitry which determine the overall values of the input voltage.

OUTPUT VOLTAGE - The output field for the output voltage value contains a numeric value indicating the present ac output voltage being supplied to the ACU. The inputs for the output field are based on the UPS circuitry which determines the output voltage supplied by the UPS.

UPS OPERATION - The status field for the UPS current operational status. The status is P if the UPS is in normal operation mode, and the status is F if the UPS is in abnormal operational mode.

ON AC LINE - The status field for the on ac line contains the present status of the UPS voltage supplied to the ACU. The status is P if on A/C or F if on battery. The inputs for the output field are based on the UPS circuitry which determines the output voltage supplied by the UPS.

BATTERY STATUS - The status field for the battery status contains a symbol indicating the present battery condition.

INVERTER - The status field for the inverter status indicating the current status of the inverter. The status is P if the inverter is working normally and the status is F if the inverter is failing.

GROUND STATUS - The status field for the ground status contains a symbol indicating the present status of the ground condition.

UTILITY - The status field for the utility status contains a symbol indicating the present status of the utility input. The status is P if utility input is normal and the status is F if there is a problem with the utility input.

TIMEOUT - The status field for the Watchdog Timer status contains a symbol indicating the present status of the UPS COMMS.

BATTERY MANAGEMENT - This field indicates the current battery activity. This field may indicate the following battery activities: RESTING, FLOATING, CHARGING, or DISCHARGING.

LINE REGULATION - This field indicates the current activity on the utility input. This field may indicate the following line regulation activities: NORMAL, STEP DOWN, or STEP UP.

UPS INLINE - The status field for the UPS bypass displays P when UPS is inline or F when UPS is bypassed.

CMD UPS INLINE - The command field for the UPS bypass bypasses UPS when set to OFF or places UPS inline when set to ON.

5.3.27.4   **Execution.** - Refer to paragraph 5.3.1.4 for execution procedures.

5.3.27.5   **Termination.** - Refer to paragraph 5.3.1.5 the termination procedure.

5.3.27.6   **Restart.** - Refer to paragraph 5.3.1.6 for restart procedures.

5.3.27.7   **Outputs.** - Refer to paragraph 5.3.1.7 for outputs processing. Outputs of the ACU Uninterruptible Power Supply (UPS) Diagnostic Function are:

5.3.27.7.1   *__SOLA UPS.__*

BATTERY VOLTAGE - The battery voltage field contains a numeric value indicating the overall status of the battery voltage.
The inputs for the output field are based in the UPS circuitry which determines the overall value of the battery voltage.

INPUT VOLTAGE - The status field for the input voltage contains a numeric value indicating the overall status of the input voltage. The inputs for the output field are based in the UPS circuitry which determine the overall value of the input voltage.

OUTPUT VOLTAGE - The output field for the output voltage value contains a numeric value indicating the present ac output voltage being supplied to the ACU. The inputs for the output field are based on the UPS circuitry which determines the output voltage supplied by the UPS.

OUTPUT ENABLED - The status field for the output enabled contains a symbol indicating the present output voltage being supplied to the ACU.

ON AC LINE - The status field for the on ac line contains the present status of the UPS voltage being supplied to the ACU. The inputs for the output field are based on the UPS circuitry which determines the output voltage supplied by the UPS.).

BATTERY STATUS - The status field for the battery status contains a symbol indicating the present battery condition in the ACU. .

TRIAC STATUS - The status field for the triac status contains a symbol indicating the present status of the triac.

TEMPERATURE - The status field for temperature contains a symbol indicating the present temperature status in the ACU.

RS232 STATUS - The status field for the RS232 status contains a symbol indicating the present status of the ACU RS232 serial communications.

TIMEOUT - The status field for the Watchdog Timer status contains a symbol indicating the present status of the UPS COMMS.).

UPS INLINE - The status field for the UPS bypass displays P when UPS is inline or F when UPS is bypassed.

CMD UPS INLINE - The command field for the UPS bypass bypasses UPS when set to OFF or places UPS inline when set to ON.

5.3.27.7.2   *Deltec UPS.*

BATTERY VOLTAGE - The battery voltage field contains a numeric value indicating the overall status of the battery voltage. The inputs for the output field are based in the UPS circuitry which determines the overall value of the battery voltage.

INPUT VOLTAGE - The status field for the input voltage contains a numeric value indicating the overall status of the input voltage. The inputs for the output field are based in the UPS circuitry which determine the overall values of the input voltage.

OUTPUT VOLTAGE - The output field for the output voltage value contains a numeric value indicating the present ac output voltage being supplied to the ACU. The inputs for the output field are based on the UPS circuitry which determines the output voltage supplied by the UPS.

UPS OPERATION - The status field for the UPS current operational status.

ON AC LINE - The status field for the on ac line contains the present status of the UPS voltage being supplied to the ACU. The inputs for the output field are based on the UPS circuitry which determines the output voltage supplied by the UPS.

BATTERY STATUS - The status field for the battery status contains a symbol indicating the present battery condition in the ACU.

INVERTER - The status field for the inverter status indicating the current status of the inverter.

GROUND STATUS - The status field for the ground status contains a symbol indicating the present status of the ground condition. .

UTILITY - The status field for the utility status contains a symbol indicating the present status of the utility input.

TIMEOUT - The status field for the Watchdog Timer status contains a symbol indicating the present status of the UPS COMMS.

BATTERY MANAGEMENT - This field indicates the current battery activity. This field may indicate the following battery activities: RESTING, FLOATING, CHARGING, or DISCHARGING.

LINE REGULATION - This field indicates the current activity on the utility input. This field may indicate the following line regulation activities: NORMAL, STEP DOWN, or STEP UP.

UPS INLINE - The status field for the UPS bypass displays P when UPS is inline or F when UPS is bypassed.

CMD UPS INLINE - The command field for the UPS bypass bypasses UPS when set to OFF or places UPS inline when set to ON.

5.3.27.8   **Interrelationship.** - Refer to paragraph 5.3.1.8 for interrelationship description.

5.3.28   **Ground To Air (GTA) Radio Diagnostic Function.**

The ACU Ground To Air (GTA) Radio Diagnostic Function Display indicates the status of the GTA Radio functions within the ACU. The display also enables the technician to perform an on-demand diagnostic test of the GTA Radio. Refer to figure 5-34 for the GTA Radio Page and the GTA Radio Help Screen.

5.3.28.1   **Execution Options.** - Refer to paragraph 5.3.1.2 for executions options.

5.3.28.2   **User Inputs.** - There are no user inputs to the GTA Radio Diagnostic Function.

5.3.28.3   **System Inputs.** - Refer to paragraph 5.3.1.3 for system inputs processing. System inputs to the GTA Radio Diagnostic Function are:

RADIO ID NUMBER - The Radio ID Number field contains a numeric value indicating the unique identification number assigned to the unit by the manufacturer.

TRANSMIT FREQUENCY - The Transmit Frequency field contains a real number which indicates the current frequency at which the radio is broadcasting.

POWER LEVEL SETTING - The Power Level Setting field contains a numeric value that is a relative indicator of the current power level to which the radio is set. The value is not displayed in watts.

MAX POWER SETTING - The Max Power Setting field contains a numeric value that is a relative indicator of the maximum power level to which the radio may be set. The value is not displayed in watts.

POWER SUPPLY STATUS - The Power Supply Status Fields indicate the status of the power supply at the +5, +12, -12, and -80 Volt settings.

VFWD STATUS - The VFWD Status field contains a numeric value and a status indicator which represents the forward voltage level and the status of the forward voltage level in the radio.

VRFD STATUS - The VRFD Status field contains a numeric value and a status indicator which represent the reflected voltage level and the status of the reflected voltage level in the radio.

RADIO RESPONSE - The Radio Response status field indicates whether or not the radio has responded to a data request from the self-test. The inputs to the status field are based on a response by the radio.

5.3.28.4   **Execution.** - Refer to paragraph 5.3.1.4 for execution options.

5.3.28.5   **Termination.** - Refer to paragraph 5.3.1.5 for the termination procedure.

5.3.28.6   **Restart.** - Refer to paragraph 5.3.1.6 for restart procedures.

5.3.28.7   **Outputs.** - Refer to paragraph 5.3.1.7 for outputs processing. Outputs of the GTA Radio Diagnostic Function are:

RADIO ID NUMBER - The Radio ID Number field contains a numeric value indicating the unique identification number assigned to the unit by the manufacturer.

```
 11:21:56 07/04/96 1621Z                                            ANYTOWN AIRPORT
    +)))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))),
 *                                                                                 *
 *                                                                                 *
 *                                                                                 *
 *  RADIO ID NUMBER      123456                 RADIO RESPONSE        P             *
 *  TRANSMIT FREQUENCY  118.025                                                    *
 *  POWER LEVEL SETTING     50                                                     *
 *  MAX POWER SETTING      189                                                     *
 *  POWER SUPPLY STATUS          P                                                 *
 *   +5V                         P                                                 *
 *  +12V                         P                                                 *
 *  -12V                         P                                                 *
 *  -80V                         P                                                 *
 *  VFWD STATUS            047    P                                                *
 *  VRFD STATUS            002    P                                                *
 *                                                                   GTA RADIO     *
  *                                                               +)))))0)))))0)))))1
 *                                                               *PRINT*CLEAR*      *
  *                                                              /)))))3)))))3)))))1
 *                                                               *TEST *      *     *
  *                                                              /)))))3)))))3)))))1
 *                                                               *EXIT *BACK *      *
    .)))))))))))))))))))))))))))))))))))))))))))))))))))))))))))2)))))2)))))2)))))-
```

```
 11:21:56 07/04/96 1621Z                                            ANYTOWN AIRPORT
    +)))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))),
*PRINT - PRINT THE CURRENT SCREEN ON THE ASOS PRINTER                             *
*                                                                                 *
*CLEAR - CLEAR ALL COUNTERS FOR PASS/FAIL FIELDS ON THIS PAGE AND                 *
*ALL PAGES SUMMARIZED BY THIS PAGE                                                *
*                                                                                 *
*                                                                                 *
*TEST  - RUN EXTENDED DIAGNOSTIC TEST(S) ON THE SELECTED DEVICE                   *
*****  W A R N I N G  **** THIS TEST MAY CAUSE TEMPORARY LOSS OF DATA             *
*                                                                                 *
*                                                                                 *
*                                                                                 *
*                                                                                 *
*EXIT  - RETURN THE USER TO THE ONE-MINUTE SCREEN                                 *
*                                                                                 *
*BACK  - RETURN THE USER TO THE PREVIOUS SCREEN / KEYPAD                          *
*                                                                                 *
*                                                                                 *
*                                                                                 *
*                                                                                 *
*                   PRESS HELP OR KEYPAD 0 TO EXIT HELP                           *
*                                                                                 *
    .)))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))-
```

Figure 5-34. GTA Radio Page and System Help Screen

TRANSMIT FREQUENCY - The Transmit Frequency field contains a real number which indicates the current frequency at which the radio is broadcasting.

POWER LEVEL SETTING - The Power Level Setting field contains a numeric value that indicates the current power level to which the radio is set.

MAX POWER SETTING - The Max Power Setting field contains a numeric value which represents the maximum power level to which the radio may be set.

POWER SUPPLY STATUS - The Power Supply Status Fields indicate the status of the power supply at the +5, +12, -12, and -80 Volt settings.

VFWD STATUS - The VFWD Status field contains a numeric value and a status indicator which represents the forward voltage level and the status of the forward voltage level in the radio.

VRFD STATUS - The VRFD Status field contains a numeric value and a status indicator which represent the reflected voltage level and the status of the reflected voltage level in the radio.

RADIO RESPONSE - The Radio Response status field indicates whether or not the radio has responded to a data request from the self-test.

5.3.28.8   **Interrelationship.** - Refer to paragraph 5.3.1.8 for interrelationship description.

5.3.29   **Remote DCP Status Function.**

The Remote DCP Status Function displays the status of the Remote DCP sensor and hardware area, and provides menu commands to access DCP sensor diagnostic functions and hardware status and diagnostic functions. Since the DCPs are identical, only DCP #1 will be described. Refer to figure 5-35 for the Remote DCP #1 Page and the Remote DCP #1 Page Help Screen.

5.3.29.1   **Execution Options.** - The following menu commands provide execution options for the user. Refer to paragraph 5.3.1.2 for additional execution options.

MENU COMMANDS

NOTE: The Sensor Group menu commands are site configurable and therefore may or may not appear on the DCP Status Screen.

PRESSURE SENSOR #1, #2, and #3 - Initiates the Pressure Sensor Diagnostic Function for each configured Pressure Sensor connected to the DCP. The Pressure Sensor Diagnostic Function display indicates the overall status for each configured Pressure Sensor. The Pressure Sensor Diagnostic Function display page permits the Technician to set or clear various device parameters, and to perform device diagnostics.

PRESENT WEATHER - Initiates the Present Weather Sensor Diagnostic Function for the Present Weather Sensor connected to the DCP. The Present Weather Sensor Diagnostic Function display indicates the overall status of the Present Weather Sensor. The Present Weather Sensor Diagnostic Function display page presents a list of discrete sensor parameters and the value and/or status of those parameters. The page also permits the Technician to initiate a sensor self-test.

```
  11:21:56 07/04/96 1621Z                                        ANYTOWN AIRPORT
    +))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))),
  *      SENSOR GROUP:                    HARDWARE:                               *
  *                                                                               *
  *                                                                               *
  *                                                                               *
  *   PRESENT WEATHER  P              VME              P                           *
  *   WIND SPEED/DIR   P                                                           *
  *   TEMP/DEWPOINT    P              DCP POWER        P                           *
  *   VISIBILITY #1    P                                                           *
  *   VISIBILITY #2    P              DCP UPS#1        P                           *
  *   VISIBILITY #3    P                                                           *
  *   CEILOMETER #1    P                                                           *
  *   CEILOMETER #2    P                                                           *
  *   CEILOMETER #3    P                                                           *
  *   TIPPING BUCKET   P                                                           *
  *   SNOW DEPTH       P                                        REMOTE DCP#1   *
  *   FREEZING RAIN    P                                     +)))))0)))))0)))))1
  *   FROZEN PRECIP    P                                     *PRINT*CLEAR*PREV *
  *   SUNSHINE         P                                     /)))))3)))))3)))))1
  *   THUNDERSTORM     P                                     *SEL  *     *     *
  *                                                          /)))))3)))))3)))))1
  *                                                          *EXIT *BACK *NEXT *
     .)))))))))))))))))))))))))))))))))))))))))))))))))))))))))2)))))2)))))2)))))-
```

```
  11:21:56 07/04/96 1621Z                                        ANYTOWN AIRPORT
    +))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))),
  *PRINT - PRINT THE CURRENT SCREEN ON THE ASOS PRINTER                           *
  *                                                                               *
  *CLEAR - CLEAR ALL COUNTERS FOR PASS/FAIL FIELDS ON THIS PAGE AND               *
  *ALL PAGES SUMMARIZED BY THIS PAGE                                              *
  *PREV  - MOVE THE CURSOR TO THE PREVIOUS FIELD                                  *
  *                                                                               *
  *SEL   - DISPLAYS THE PAGE SELECTED BY THE CURRENT CURSOR POSITION              *
  *                                                                               *
  *                                                                               *
  *                                                                               *
  *EXIT  - RETURN THE USER TO THE ONE-MINUTE SCREEN                               *
  *                                                                               *
  *BACK  - RETURN THE USER TO THE PREVIOUS SCREEN / KEYPAD                        *
  *                                                                               *
  *NEXT  - MOVE THE CURSOR TO THE NEXT FIELD                                      *
  *                                                                               *
  *                                                                               *
  *                    PRESS HELP OR KEYPAD 0 TO EXIT HELP                        *
  *                                                                               *
     .)))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))-
```

Figure 5-35. Remote DCP #1 Page and System Help Screen

WIND SPEED/DIR - Initiates the Wind Speed/Direction Diagnostic Function for the Wind Speed/Direction Sensor connected to the DCP. The Wind Speed/Direction Diagnostic Function display indicates the status of the Wind Speed/Direction sensor. The Wind Speed/Direction Diagnostic Function display page presents a list of discrete sensor parameters and the value and/or status of those parameters. The page also permits the Technician to initiate a sensor self-test.

TEMP/DEWPOINT - Initiates the Temperature/Dewpoint Diagnostic Function. The Temperature/Dewpoint Diagnostic Function Display indicates the overall status of the 1088 or HO83 Temperature and Dewpoint sensors connected to the DCP. The Temperature/Dewpoint Diagnostic Function display page permits the Technician to perform on-demand diagnostic testing of the 1088 or HO83.

VISIBILITY #1, #2, and #3 - Initiates the Visibility Sensor Diagnostic Function for each configured Visibility Sensor connected to the DCP. The Visibility Sensor Diagnostic Function displays the overall status for each configured Visibility Sensor. The Visibility Sensor display page presents a list of discrete sensor parameters and the status of those parameters.

CEILOMETER #1, #2, and #3 - Initiates the Ceilometer Diagnostic Function for each configured Ceilometer connected to the DCP. The Ceilometer Diagnostic Function display indicates the overall status for each configured ceilometer. The Ceilometer Diagnostic Function display page permits the Technician to change ceilometer parameters.

TIPPING BUCKET - The Tipping Bucket status field indicates the Data Quality status.

SNOW DEPTH - Initiates the Snow Depth Sensor Diagnostic Function for the DCP Snow Depth Sensor. When available, the Snow Depth Sensor display page presents a list of discrete parameters of the snow depth sensor and the current status of those parameters.

FREEZING RAIN - Initiates the Freezing Rain Sensor Diagnostic Function for the DCP Freezing Rain Sensor. The Freezing Rain Sensor display page presents a list of discrete parameters of the Freezing Rain Sensor and the current status of those parameters.

FROZEN PRECIP - Initiates the Frozen Precipitation Sensor Diagnostic Function for the DCP Frozen Precipitation Sensor. When available, the Frozen Precipitation Sensor display page will present a list of discrete parameters of the Frozen Precipitation Sensor and the current status of those parameters.

SUNSHINE - Initiates the Sunshine Sensor Diagnostic Function for the DCP Sunshine Sensor. When available, the Sunshine Sensor display page will present a list of discrete parameters of the Sunshine Sensor and the current status of those parameters.

THUNDERSTORM- Initiates the Thunderstorm Sensor Diagnostic Function for the DCP Thunderstorm Sensor. When available, the Thunderstorm Sensor display page will present a list of discrete parameters of the Thunderstorm Sensor and the current status of those parameters.

VME - Initiates the DCP VME Cards Rack Status Function. The DCP VME Card Rack Status Function displays the overall status of the DCP VME card rack boards. The DCP VME Card Rack Display page permits the Technician to access hardware status and diagnostic functions.

DCP POWER - Initiates the Power Supply Diagnostic Function for the DCP. The Power Supply Diagnostic Function Display indicates the status of all power-related functions within the DCP. The DCP POWER display page allows the Technician to display the individual status pages.

DCP UPS#1 - Initiates the Uninterruptible Power Supply (UPS) 1 Diagnostic Function for the DCP UPS 1. The Uninterruptible Power Supply (UPS) Diagnostic Function Display indicates the status of all power-related functions within the DCP. The DCP UPS#1 display page allows the Technician to display the individual status pages.

5.3.29.2   **User Inputs.** - There are no user inputs to the Remote DCP Status Function.

5.3.29.3   **System Inputs.** - Refer to paragraph 5.3.1.3 for system inputs processing. System inputs to the Remote DCP Status Function are:

SENT WEATHER - The Present Weather Status field indicates the overall status of the Present Weather Sensor connected to the DCP. The present weather status is derived from the status of the present weather sensor.

PRESENT WEATHER - The PRESENT WEATHER Status field indicates the overall status for the configured Present Weather Sensor connected to the DCP. The present weather status is derived from the status of the present weather sensor.

WIND SPEED/DIR - The WIND SPEED/DIR Status field indicates the overall status of the Wind Speed/Direction Sensor connected to the DCP. The wind speed/direction status is derived from the status of the wind speed/direction sensor.

TEMP/DEWPOINT - The TEMPERATURE/DEWPOINT Status field indicates the overall status of the Temperature/Dewpoint Sensor connected to the DCP. The temperature/dewpoint status is derived from the status of the temperature/dewpoint sensor.

VISIBILITY #1, #2, and #3 - The VISIBILITY Status field indicates the overall status for each configured Visibility Sensor connected to the DCP. The visibility status is derived from the status of the visibility sensor.

CEILOMETER #1, #2, and #3 - The CEILOMETER Status field indicates the overall status for each configured Ceilometer Sensor connected to the DCP. The ceilometer status is derived from the status of the ceilometer sensor.

TIPPING BUCKET - The Tipping Bucket status field indicates the pass/fail status of tipping bucket data quality. The input for this status field is P, or F based on the pass/fail status of the tipping bucket data quality.

SNOW DEPTH - The SNOW DEPTH Status field indicates the overall status of the DCP Snow Depth Sensor. The snow depth status is derived from the status of the snow depth sensor.

FREEZING RAIN - The FREEZING RAIN Status field indicates the overall status of the DCP Freezing Rain Sensor. The freezing rain status is derived from the status of the freezing rain sensor.

FROZEN PRECIP - The FROZEN PRECIP Status field indicates the overall status of the DCP Frozen Precipitation Sensor. The frozen precipitation status is derived from the status of the frozen precipitation sensor.

SUNSHINE - The SUNSHINE Status field indicates the overall status of the DCP Sunshine Sensor. The sunshine status is derived from the status of the sunshine sensor.

THUNDERSTORM - The THUNDERSTORM Status field indicates the overall status of the DCP Thunderstorm Sensor. The thunderstorm status is derived from the status of the thunderstorm sensor.

VME Status - The VME Status field indicates the overall status of the DCP VME Cards Rack. The VME cards rack status is derived from the status of the VME cards rack.

DCP POWER - The Status field indicates the overall status of the DCP Power Supplies. The power status is derived from the status of the DCP Power Supplies.

DCP UPS#1 - The Status field indicates the overall status of the DCP Uninterruptible Power Supply (UPS) #1. The power status is derived from the status of the UPS #1.

5.3.29.4   **Execution.** - Refer to paragraph 5.3.1.4 for execution procedures.

5.3.29.5   **Termination.** - Refer to paragraph 5.3.1.5 for the termination procedure.

5.3.29.6   **Restart.** - Refer to paragraph 5.3.1.6 for restart procedures.

5.3.29.7   **Outputs.** - Outputs of the Remote DCP Status Function are processed as shown paragraph 5.3.1.7 and as described by the following::

NOTE: The sensor fields are updated only if the sensor is located on the selected DCP.

PRESSURE SENSOR #1, #2, and #3 - The Pressure Sensor Status field indicates the overall status for each configured Pressure Sensor connected to the ACU. The pressure sensor status is derived from the status of the applicable pressure sensor. The status field indicates a P if the applicable pressure sensor has a pass status. The status field indicates an F if the applicable pressure sensor has a fail status. The status field indicates a C if the applicable pressure sensor has a caution status. The status field indicates a T if the applicable pressure sensor has a test status. The status field indicates an * if there is insufficient information.

PRESENT WEATHER - The PRESENT WEATHER Status field indicates the overall status for each configured Present Weather Sensor connected to the DCP. The present weather status is derived from the status of the applicable present weather sensor. The status field indicates a P if the applicable present weather sensor has a pass status. The status field indicates an F if the applicable present weather sensor has a fail status. The status field indicates a C if the applicable present weather sensor has a caution status. The status field indicates a T if the applicable present weather sensor has a test status. The status field indicates an * if there is insufficient information.

WIND SPEED/DIR - The WIND SPEED/DIR Status field indicates the overall status of the Wind Speed/Direction Sensor connected to the DCP. The wind speed/direction status is derived from the status of the wind speed/direction sensor. The status field indicates a P if the wind speed/direction sensor has a pass status. The status field indicates an F if the wind speed/direction sensor has a fail status. The status field indicates a C if the wind speed/direction sensor has a warning status. The status field indicates a T if the wind speed/direction sensor has a test status. The status field indicates an * if there is insufficient information.

TEMP/DEWPOINT - The TEMPERATURE/DEWPOINT Status field indicates the overall status of the Temperature/Dewpoint Sensor connected to the DCP. The temperature/dewpoint status is derived from the status of the temperature/dewpoint sensor. The status field indicates a P if the temperature/dewpoint sensor has a pass status. The status field indicates an F if the temperature/dewpoint sensor has a fail status. The status field indicates a C if the temperature/dewpoint sensor has a caution status. The status field indicates a T if the temperature/dewpoint sensor has a test status. The status field indicates an * if there is insufficient information.

VISIBILITY #1, #2, #3 - The VISIBILITY Status field indicates the overall status for each Visibility Sensor connected to the DCP. The visibility status is derived from the status of the applicable visibility sensor. The status field indicates a P if the applicable visibility sensor has a pass status. The status field indicates an F if the applicable visibility sensor has a fail status . The status field indicates a C if the applicable visibility sensor has a caution status. The status field indicates a T if the applicable visibility sensor has a test status. The status field indicates an * if there is insufficient information.

CEILOMETER #1, #2, and #3 - The CEILOMETER Status field indicates the overall status for each Ceilometer Sensor connected to the DCP. The ceilometer status is derived from the status of the applicable ceilometer sensor. The status field indicates a P if the applicable ceilometer sensor has a pass status. The status field indicates an F if the applicable ceilometer sensor has a fail status. The status field indicates a C if the applicable ceilometer sensor has a caution status. The status field indicates a T if the applicable ceilometer sensor has a test status. The status field indicates an * if there is insufficient information.

TIPPING BUCKET - The Tipping Bucket status field indicates the data quality status for the tipping bucket. The status field may indicate P (Pass), or F (Fail). The status field indicates a P if the tipping bucket data quality has a pass status. The status field indicates an F if the tipping bucket data quality has a fail status.

SNOW DEPTH - The SNOW DEPTH Status field indicates the overall status of the DCP Snow Depth Sensor. The snow depth status is derived from the status of the snow depth sensor. The status field indicates a P if the snow depth sensor has a pass status. The status field indicates an F if the snow depth sensor has a fail status. The status field indicates a C if the snow depth sensor has a caution status. The status field indicates a T if the snow depth sensor has a test status. The status field indicates an * if there is insufficient information.

FREEZING RAIN - The FREEZING RAIN Status field indicates the overall status of the DCP Freezing Rain Sensor. The freezing rain status is derived from the status of the freezing rain sensor. The status field indicates a P if the freezing rain sensor has a pass status. The status field indicates an F if the freezing rain sensor has a fail status. The status field indicates a C if the freezing rain sensor has a caution status. The status field indicates a T if the freezing rain sensor has a test status. The status field indicates an * if there is insufficient information.

FROZEN PRECIP - The FROZEN PRECIP Status field indicates the overall status of the DCP Frozen Precipitation Sensor. The frozen precipitation status is derived from the status of the frozen precipitation sensor. The status field indicates a P if the frozen precipitation sensor has a pass status. The status field indicates an F if the frozen precipitation sensor has a fail status. The status field indicates a C if the frozen precipitation sensor has a caution status. The status field indicates a T if the frozen precipitation sensor has a test status. The status field indicates an * if there is insufficient information.

SUNSHINE - The SUNSHINE Status field indicates the overall status of the DCP Sunshine Sensor. The sunshine status is derived from the status of the sunshine sensor. The status field may indicate P (Pass), F (Fail), C (Caution), T (Test), or * (insufficient information). The status field indicates a P if the sunshine sensor has a pass status. The status field indicates an F if the sunshine sensor has a fail status. The status field indicates a C if the sunshine sensor has a caution status. The status field indicates a T if the sunshine sensor has a test status. The status field indicates an * if there is insufficient information.

THUNDERSTORM - The THUNDERSTORM Status field indicates the overall status of the DCP Thunderstorm Sensor. The thunderstorm status is derived from the status of the thunderstorm sensor. The status field indicates a P if the sensor has a pass status. The status field indicates an F if the sensor has a fail status. The status field indicates a C if the sensor has a caution status. The status field indicates a T if the sensor has a test status. The status field indicates an * if there is insufficient information.

VME   - The VME CARDS RACK Status field indicates the overall status of the DCP VME Cards Rack. The VME cards rack status is derived from the status of the VME cards rack. The status field indicates a P if the VME cards rack has a pass status. The status field indicates an F if the VME cards rack has a fail status. The status field indicates a D if five or more SIO loopback failures have occurred and they are not currently failed. The status field indicates a T if the VME cards rack has a test status. The status field indicates an * if there is insufficient information.

DCP POWER - The Status field indicates the overall status of the DCP Power Supplies. The power status is derived from the status of the DCP power supplies. The status field indicates a P if the power #1 has a pass status. The status field indicates an F if the power #1 has a fail status. The status field indicates a T if the power #1 has a test status. The status field indicates an * if there is insufficient information.

DCP UPS#1 - The Status field indicates the overall status of the DCP Uninterruptible Power Supply (UPS) #1. The power status is derived from the status of the power #2. The status field indicates a P if the power #2 has a pass status. The status field indicates an F if the power #2 has a fail status. The status field indicates a T if the power #2 has a test status. The status field indicates an * if there is insufficient information.

5.3.29.8   **Interrelationship.** - Refer to paragraph 5.3.1.8 for interrelationshipdescription.

5.3.30   **DCP Pressure Sensor #1, #2, #3 Diagnostic Function**.

This section applies only for the unusual circumstance that pressure sensors are configured on the DCP instead of the ACU. The DCP Pressure Sensor #1, #2, #3 Diagnostic Function provides maintenance personnel with the capability to; 1) observe status, 2) calibrate, 3) set or clear various device parameters, or 4) perform device diagnostics on the pressure sensors. Refer to figure 5-36 for the Pressure Sensor #1, #2, #3 Page and the Pressure Sensor #1, #2, #3 Page Help Screen.

5.3.30.1   **Execution Options.** - Refer to paragraph 5.3.1.2 for execution options.

5.3.30.2   **User Inputs.** - There are no user inputs to the Pressure Sensor Diagnostic Function.

5.3.30.3   **System Inputs.** - System inputs to the Pressure Sensor Diagnostic Function are processed as shown in paragraph 5.3.1.3.

5.3.30.4   **Execution.** - Refer to paragraph 5.3.1.4 for execution procedures.

5.3.30.5   **Termination.** - Refert to paragraph 5.3.1.5 for the termination procedure.

5.3.30.6   **Restart.** - Refer to paragraph 5.3.1.6 for restart procedures.

5.3.30.7   **Outputs.** - Outputs of the Pressure Sensor Diagnostic Function are processed as shown in paragraph 5.3.1.7 and described by the following:

DATA QUALITY - The status field indicates whether or not the data being received from the sensor is valid (logically correct) when compared to the standard specified in the data quality monitoring algorithm.

```
  11:21:56 07/04/96 1621Z                                        ANYTOWN AIRPORT
     +))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))),
  *                                                                              *
  *                                        DATA QUALITY          P               *
  *                                        REPORT PROCESS        Y               *
  *                                        SENSOR RESPONSE        P               *
  *                                                                              *
  *                                                                              *
  *                                                                              *
  *                                                                              *
  *                                                                              *
  *                                                                              *
  *                                                                              *
  *                                                                              *
  *                                                                              *
  *                                                          PRESSURE #N    *
   *                                                          +)))))0)))))0)))))1
  *                                                          *PRINT*CLEAR*      *
   *                                                          /)))))3)))))3)))))1
  *                                                          *TEST *      *      *
   *                                                          /)))))3)))))3)))))1
  *                                                          *EXIT *BACK *      *
     .))))))))))))))))))))))))))))))))))))))))))))))))))))))))))2)))))2)))))2)))))-
```

```
  11:21:56 07/04/96 1621Z                                        ANYTOWN AIRPORT
     +))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))),
  *PRINT - PRINT THE CURRENT SCREEN ON THE ASOS PRINTER                          *
  *                                                                              *
  *CLEAR - CLEAR ALL COUNTERS FOR PASS/FAIL FIELDS ON THIS PAGE AND              *
  *ALL PAGES SUMMARIZED BY THIS PAGE                                            *
  *                                                                              *
  *                                                                              *
  *TEST  - RUN EXTENDED DIAGNOSTIC TEST(S) ON THE SELECTED DEVICE               *
  *****  W A R N I N G  ****   THIS TEST MAY CAUSE TEMPORARY LOSS OF DATA        *
  *                                                                              *
  *                                                                              *
  *                                                                              *
  *                                                                              *
  *                                                                              *
  *EXIT  - RETURN THE USER TO THE ONE-MINUTE SCREEN                             *
  *                                                                              *
  *BACK  - RETURN THE USER TO THE PREVIOUS SCREEN / KEYPAD                      *
  *                                                                              *
  *                                                                              *
  *                    PRESS HELP OR KEYPAD 0 TO EXIT HELP                       *
  *                                                                              *
     .)))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))-
```

Figure 5-36. Pressure Sensor #1, #2, #3 Page and System Help Screen

REPORT PROCESS - The status field indicates the present operating status of the sensor, Y (Yes) sensor is delivering data to the system, N (No) sensor is off-line and not delivering data to the system, or * (initial system check in progress). The report process field can be set by the Observer on the review sensor configuration page.

SENSOR RESPONSE - Status field indicates whether or not the sensor has responded to a data request from the sensor processing program or the self-test program.

5.3.30.8   **Interrelationship.** - Refer to paragraph 5.3.1.8 for interrelationship description.

5.3.31   **DCP CPU Diagnostic Function.**

The DCP #1, #2, and #3 CPU Diagnostic Function display indicates the status of those CPU boards in the system. The display also presents the status of discrete functional areas on those CPU boards. Using this display and the keypad, the Technician can initiate a self-test of the functional areas on the CPU boards. Refer to figure 5-37 for the CPU Page and the CPU Page Help Screen. The CPU Page and Help Screen on DCP #1 will be the same for #2 and #3 with the exception of the title of the DCP. Therefore, only DCP#1 is demonstrated.

5.3.31.1   **Execution Options.** - Refer to paragraph 5.3.1.2 for execution options.

5.3.31.2   **User Inputs.** - There are no user inputs to the DCP #1, #2, and #3 CPU Diagnostic Function.

5.3.31.3   **System Inputs.** - System inputs to the DCP #1, #2, and #3 CPU Diagnostic Function are processed as shown in paragraph 5.3.1.3 and as shown by the following:

DRAM - The status field for the Dynamic Random Access Memory (DRAM) contains a symbol indicating the status of the DCP CPU boards. The inputs to the status field are based on the alternating pattern tests (writing and reading back hexadecimal sets of 1's and 0's) which are performed by the system. The system evaluates these bit patterns and determines the output status.

EPROM - The status field for the Erasable Programmable Read Only Memory (EPROM) contains a symbol indicating the status of the DCP CPU boards. The inputs to the status field are based on the system byte count or checksum being equal to the last byte in the EPROM. The system evaluates this byte count or checksum and determines the output status.

BUS ERRORS - The status field for the Bus Errors contains a symbol indicating the status of the DCP CPU boards. The inputs to the status field are based on a comparison of what is written into the Memory or the I/O Address and what is read from these addresses to determine a valid response by the system. The system evaluates this response and determines the output status.

SERIAL PORT #1 and #2 LOOPBACK - The LOOPBACK status fields for both Serial Ports #1 and #2 contain symbols indicating the status of the DCP CPU boards. The inputs to the status fields are based on comparing what is written to the Universal Asynchronous Receiver/Transmitter (UART) and what is being readback from the UART during system test. The system evaluates this information and determines the output status.

SERIAL PORT #1 and #2 XMIT ERRORS - The XMIT ERRORS status fields for both Serial Ports #1 and #2 contain symbols indicating the status of the DCP CPU boards. The inputs to the status fields are based on what errors the Universal Asynchronous Receiver/Transmitter (UART) status register contains. Errors include

```
  11:21:56 07/04/96 1621Z                                    ANYTOWN AIRPORT
    +))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))),
  *                              DCP #1                                      *
  *                            PRIMARY CPU                                    *
  *                                                                           *
  * DRAM                         P                                            *
  * EPROM                        P                                            *
  * BUS ERRORS                   P                                            *
  *                                                                           *
  * SERIAL PORT #1                                                            *
  *  LOOPBACK                    P                                            *
  *  XMIT ERRORS                 P                                            *
  *                                                                           *
  * SERIAL PORT #2                                                            *
  *  LOOPBACK                    P                                            *
  *  XMIT ERRORS                 P                                            *
  *                                                               CPU         *
   *                                                      +)))))0)))))0)))))1
  * ----------------------------------------------------- *PRINT*CLEAR*    *
   *                                                      /)))))3)))))3)))))1
  * REDUNDANT CPU                B                        *TEST *     *    *
   *  STATUS                      F                       /)))))3)))))3)))))1
  *                                                      *EXIT *BACK *    *
    .)))))))))))))))))))))))))))))))))))))))))))))))))))))))2)))))2)))))2)))))-
```

```
  11:21:56 07/04/96 1621Z                                    ANYTOWN AIRPORT
    +)))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))),
  *PRINT - PRINT THE CURRENT SCREEN ON THE ASOS PRINTER                      *
  *                                                                           *
  *CLEAR - CLEAR ALL COUNTERS FOR PASS/FAIL FIELDS ON THIS PAGE AND          *
  *ALL PAGES SUMMARIZED BY THIS PAGE                                         *
  *                                                                           *
  *                                                                           *
  *TEST  - RUN EXTENDED DIAGNOSTIC TEST(S) ON THE SELECTED DEVICE            *
  *****  W A R N I N G  ****  THIS TEST MAY CAUSE TEMPORARY LOSS OF DATA     *
  *                                                                           *
  *                                                                           *
  *                                                                           *
  *                                                                           *
  *EXIT  - RETURN THE USER TO THE ONE-MINUTE SCREEN                          *
  *                                                                           *
  *BACK  - RETURN THE USER TO THE PREVIOUS SCREEN / KEYPAD                   *
  *                                                                           *
  *                                                                           *
  *                                                                           *
  *                                                                           *
  *                  PRESS HELP OR KEYPAD 0 TO EXIT HELP                     *
  *                                                                           *
    .))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))-
```

Figure 5-37. CPU Page and System Help Screen

Framing Errors, Parity Errors, and Overrun Errors. The system evaluates this information and determine the output status.

REDUNDANT CPU - The status field for the Redundant CPU contains a symbol indicating which CPU board is the redundant CPU. The inputs to the status field are based on a flag which is set in the Software.

STATUS - The status field contains the operational status of the redundant CPU. The system evaluates this response and determines the output status.

5.3.31.4   **Execution.** - Refer to paragraph 5.3.1.4 for execution procedures.

5.3.31.5   **Termination.** - Refer to paragraph 5.3.1.5 for the termination procedure.

5.3.31.6   **Restart.** - Refer to paragraph 5.3.1.6 for restart procedures.

5.3.31.7   **Outputs.** - Outputs of the DCP #1, #2, and #3 CPU Diagnostic Function are processed as described in paragraph 5.3.1.7 and as shown below:

DRAM - The status field for the Dynamic Random Access Memory (DRAM) contains a symbol indicating the status of the DCP CPU boards.

EPROM - The status field for the Erasable and Programmable Read Only Memory (EPROM) contains a symbol indicating the status of the DCP CPU boards.

BUS ERRORS - The status field for the BUS ERRORS contains a symbol indicating the status of the DCP CPU boards.

SERIAL PORT #1 and #2 LOOPBACK - The LOOPBACK status fields for both Serial Ports #1 and #2 contain symbols indicating the status of the DCP CPU boards.

SERIAL PORT #1 and #2 XMIT ERRORS - The XMIT ERRORS status fields for both Serial Ports #1 and #2 contain symbols indicating the status for the DCP CPU boards. Errors observed include Framing Errors, Parity Errors, and Overrun Errors.

REDUNDANT CPU - The REDUNDANT CPU status field contains symbols (A, B or *) indicating which CPU is the redundant CPU in the DCP.

STATUS - The status field contains a symbol indicating the status of the redundant CPU.

5.3.31.8   **Interrelationship.** - Refer to paragraph 5.3.1.8 for interrelationship description.

5.3.32   **DCP Memory Diagnostic Function.**

The DCP #1, #2, and #3 Memory Diagnostic Function display indicates the status of the memory board in the system. The display also presents the status of discrete memory locations on the memory board. Using this display and the keypad, the technician can determine a problem in the memory card, or determine if the memory board was programmed incorrectly. Refer to figure 5-38 for the Memory Page and the Memory Page Help Screen. The Memory Page and Help Screen on DCP #1 will be the same for #2 and #3 with the exception of the title of the DCP. Therefore, we will only demonstrate DCP #1.

```
  11:21:56 07/04/96 1621Z                                              ANYTOWN AIRPORT
     +)))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))),
  *                                                                                  *
  *                          DCP #1 MEMORY                                           *
  *                                                                                  *
  *                                                                                  *
  *       SRAM                     P                                                 *
  *                                                                                  *
  *                                                                                  *
  *                                                                                  *
  *                                                                                  *
  *                                                                                  *
  *                                                                                  *
  *                                                                                  *
  *                                                                                  *
  *                                                                                  *
  *                                                                      MEMORY      *
   *                                                                    +)))))0)))))0)))))1
  *                                                                    *PRINT*CLEAR*     *
   *                                                                    /)))))3)))))3)))))1
  *                                                                    *TEST *     *     *
   *                                                                    /)))))3)))))3)))))1
  *                                                                    *EXIT *BACK *     *
     .))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))2)))))2)))))2)))))-



  11:21:56 07/04/96 1621Z                                              ANYTOWN AIRPORT
     +)))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))),
*PRINT - PRINT THE CURRENT SCREEN ON THE ASOS PRINTER                                 *
*                                                                                     *
*CLEAR - CLEAR ALL COUNTERS FOR PASS/FAIL FIELDS ON THIS PAGE AND                     *
*ALL PAGES SUMMARIZED BY THIS PAGE                                                    *
*                                                                                     *
*                                                                                     *
*TEST  - RUN EXTENDED DIAGNOSTIC TEST(S) ON THE SELECTED DEVICE                       *
*****  W A R N I N G  ****  THIS TEST MAY CAUSE TEMPORARY LOSS OF DATA                *
*                                                                                     *
*                                                                                     *
*                                                                                     *
*                                                                                     *
*EXIT  - RETURN THE USER TO THE ONE-MINUTE SCREEN                                     *
*                                                                                     *
*BACK  - RETURN THE USER TO THE PREVIOUS SCREEN / KEYPAD                              *
*                                                                                     *
*                                                                                     *
*                                                                                     *
*                                                                                     *
*                     PRESS HELP OR KEYPAD 0 TO EXIT HELP                             *
*                                                                                     *
     .)))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))-
```

Figure 5-38. Memory Page and System Help Screen

5.3.32.1   **Execution Options.** - Refer to paragraph 5.3.1.2 for execution options.

5.3.32.2   **User Inputs.** - There are no user inputs to the DCP #1, #2, and #3 Memory Diagnostic Function.

5.3.32.3   **System Inputs.** - System inputs to the DCP #1, #2, and #3 Memory Diagnostic Function are listed below and processed as shown in paragraph 5.3.1.3

SRAM - The status field for the Static Random Access Memory (SRAM) contains a symbol indicating the status of the DCP Memory boards. The inputs to the status field are based on the system reading to a location on a memory card. The system evaluates this information and tests for any Bus Errors which may occur to determine the output status.

5.3.32.4   **Execution.** - Refer to paragraph 5.3.1.4 for execution procedures.

5.3.32.5   **Termination.** - Refer to paragraph 5.3.1.5 for the termination procedure.

5.3.32.6   **Restart.** - Refer to paragraph 5.3.1.6 for restart procedures.

5.3.32.7   **Outputs.** - Outputs of the DCP #1, #2, and #3 Memory Diagnostic Function are processed as shown in paragraph 5.3.1.7 and listed below:

SRAM - The status field for the Static Random Access Memory (SRAM) contains a symbol indicating the status of the DCP Memory boards.

5.3.32.8   **Interrelationship.** - Refer to paragraph 5.3.1.8 for interrelationship description.

5.3.33   **DCP Serial I/O Diagnostic Function.**

The DCP #1, #2, and #3 Serial Input/Output (I/O) Diagnostic Function displays indicate the status of the Serial I/O boards in the system. The display also presents the status of discrete functional areas on the Serial I/O boards. Using this display and the keypad, the Technician can designate a Serial I/O board and initiate a self-test of the ports for that selected Serial I/O board. Refer to figure 5-39 for the DCP Serial I/O Page and the DCP Serial I/O Page Help Screen. The Serial I/O Page and Help Screen on DCP #1 will be the same for #2 and #3 with the exception of the title of the DCP. Therefore, only demonstrate DCP #1 is demonstrated.

There are five Serial I/O boards that can be associated with each DCP. Since the Serial I/O boards function in exactly the same manner, the following description applies to all of the boards.

5.3.33.1   **Execution Options.** - Refer to paragraph 5.3.1.2 for execution options.

5.3.33.2   **User Inputs.** - There are no user inputs to the DCP #1, #2, and #3 Serial I/O Diagnostic Function.

5.3.33.3   **System Inputs.** - System inputs to the DCP #1, #2, and #3 Serial I/O Diagnostic Function are as processed in paragraph 5.3.1.3 and listed by the following :

LOOPBACK - The LOOPBACK status fields for the Serial Ports contain symbols indicating the status of the serial ports for the Serial I/O boards. The inputs to the status fields are based on comparing what is written to the Universal Asynchronous Receiver/Transmitter (UART) and what is being readback from the UART during system test. The system evaluates this information and determines the output status.

```
 11:21:56 07/04/96 1621Z                                          ANYTOWN AIRPORT
     +))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))),
*                             LOOPBACK  XMIT ERR                                  *
*                                                                                 *
*                    SIO #1                                                       *
*                     PORT #1        P         P                                  *
*                     PORT #2        P         P                                  *
*                     PORT #3        P         P                                  *
*                     PORT #4        P         P                                  *
*                                                                                 *
*                                                                                 *
*                                                                                 *
*                                                                                 *
*                                                                                 *
*                                                                                 *
*                                                                                 *
*                                                                    DCP #1 SIO   *
 *                                                                  +)))))0)))))0)))))1
*                                                                  *PRINT*CLEAR*      *
 *                                                                  /)))))3)))))3)))))1
*                                                                  *TEST *     *      *
 *                                                                  /)))))3)))))3)))))1
*                                                                  *EXIT *BACK *      *
    .))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))2)))))2)))))2)))))-



 11:21:56 07/04/96 1621Z                                          ANYTOWN AIRPORT
     +))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))),
*PRINT - PRINT THE CURRENT SCREEN ON THE ASOS PRINTER                             *
*                                                                                 *
*CLEAR - CLEAR ALL COUNTERS FOR PASS/FAIL FIELDS ON THIS PAGE AND                 *
*ALL PAGES SUMMARIZED BY THIS PAGE                                                *
*                                                                                 *
*                                                                                 *
*TEST  - RUN EXTENDED DIAGNOSTIC TEST(S) ON THE SELECTED DEVICE                   *
*****  W A R N I N G  ****  THIS TEST MAY CAUSE TEMPORARY LOSS OF DATA            *
*                                                                                 *
*                                                                                 *
*                                                                                 *
*                                                                                 *
*EXIT  - RETURN THE USER TO THE ONE-MINUTE SCREEN                                 *
*                                                                                 *
*BACK  - RETURN THE USER TO THE PREVIOUS SCREEN / KEYPAD                          *
*                                                                                 *
*                                                                                 *
*                                                                                 *
*                                                                                 *
*                    PRESS HELP OR KEYPAD 0 TO EXIT HELP                          *
*                                                                                 *
    .)))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))-
```

Figure 5-39. DCP Serial I/O Page and System Help Screen

XMIT ERRORS - The XMIT ERRORS status fields contain symbols indicating the status of the serial ports for the Serial I/O boards. The inputs to the status fields are based on what errors the Universal Asynchronous Receiver/Transmitter (UART) status register contains. Errors include Framing Errors, Parity Errors, and Overrun Errors. The system evaluates this information and determines the output status.

5.3.33.4   **Execution.** - Refer to paragraph 5.3.1.4 for execution procedures.

5.3.33.5   **Termination.** - Refer to paragraph 5.3.1.5 for the termination procedure.

5.3.33.6   **Restart.** - Refer to paragraph 5.3.1.6 for restart procedures.

5.3.33.7   **Outputs.** - Outputs of the DCP #1, #2, and #3 Serial I/O Diagnostic Function are processed as shown in paragraph 5.3.1.7 and described below:

LOOPBACK - The LOOPBACK status fields for the serial ports contain symbols indicating the status of the Serial I/O boards.

XMIT ERRORS - The XMIT ERRORS status fields for the serial ports contain symbols indicating the status for the Serial I/O boards. Errors observed include Framing Errors, Parity Errors, and Overrun Errors.

5.3.33.8   **Interrelationship.** - Refer to paragraph 5.3.1.8 for interrelationship description.

5.3.34   **DCP A/D Converter Diagnostic Function.**

The DCP Analog/Digital (A/D) Diagnostic Function display indicates the status of the A/D Converter boards in the system. The display also presents the status of discrete functional areas on the A/D Converter boards. Using this display and the keypad, the Technician can designate an A/D Converter board and initiate a self-test of the functional areas on the selected A/D Converter board. Refer to figure 5-40 for the A/D Page and the A/D Page Help Screen. The A/D Converter Page and Help Screen on DCP#1 will be the same for #2 and #3 with the exception of the title of the DCP. Therefore, only DCP#1 is demonstrated.

5.3.34.1   **Execution Options.** - Refer to paragraph 5.3.1.2 for the execution options.

5.3.34.2   **User Inputs.** - There are no user inputs to the A/D Converter Diagnostic Function.

5.3.34.3   **System Inputs.** - System inputs to the A/D Converter Diagnostic Function are processed in paragraph 5.3.1.3 and described below::

REGISTER READBACK - The status field for the Register Readback contains a symbol indicating the status for the A/D Converter boards for the DCP. The inputs to the status field are based on the ability to read and write to the register which appears in a chip on the A/D Converter board. The system evaluates this process and determines the output status.

REFERENCE VOLTAGE - The status field for the Reference Voltage contains a symbol indicating the status for the A/D Converter boards for the DCP. The inputs to the status field are based on the power supply needed on each of the A/D Converter boards within tolerance. The system evaluates this power supply and determines the output status.

```
  11:21:56 07/04/96 1621Z                                           ANYTOWN AIRPORT
     +)))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))),
 *                    DCP #1                                                        *
 *                    A/D #1                                                        *
 *                                                                                  *
 *                                                                                  *
 *                                                                                  *
 *                                                                                  *
 * REGISTER                                                                         *
 *   READBACK         P                                                            *
 *                                                                                  *
 * REFERENCE                                                                        *
 *   VOLTAGE          P                                                            *
 *                                                                                  *
 *                                                                                  *
 *                                                                                  *
 *                                                                        A/D       *
  *                                                              +)))))0)))))0)))))1
 *                                                              *PRINT*CLEAR*      *
  *                                                              /)))))3)))))3)))))1
 *                                                              *TEST *      *      *
  *                                                              /)))))3)))))3)))))1
 *                                                              *EXIT *BACK *      *
     .)))))))))))))))))))))))))))))))))))))))))))))))))))))))))))2)))))2)))))2)))))-
```

```
  11:21:56 07/04/96 1621Z                                           ANYTOWN AIRPORT
     +)))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))),
 *PRINT - PRINT THE CURRENT PAGE ON THE ASOS PRINTER                                *
 *                                                                                  *
 *CLEAR - CLEAR ALL COUNTERS FOR PASS/FAIL FIELDS ON THIS PAGE AND                  *
 *ALL PAGES SUMMARIZED BY THIS PAGE                                                 *
 *                                                                                  *
 *                                                                                  *
 *TEST  - RUN EXTENDED DIAGNOSTIC TEST(S) ON THE SELECTED DEVICE                    *
 *****  W A R N I N G  ****  THIS TEST MAY CAUSE TEMPORARY LOSS OF DATA             *
 *                                                                                  *
 *                                                                                  *
 *                                                                                  *
 *                                                                                  *
 *EXIT  - RETURN THE USER TO THE ONE-MINUTE SCREEN                                  *
 *                                                                                  *
 *BACK  - RETURN THE USER TO THE PREVIOUS SCREEN / KEYPAD                           *
 *                                                                                  *
 *                                                                                  *
 *                                                                                  *
 *                                                                                  *
 *                    PRESS HELP OR KEYPAD 0 TO EXIT HELP                           *
 *                                                                                  *
     .)))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))-
```

Figure 5-40. A/D Page and System Help Screen

5.3.34.4   **Execution.** - Refer to paragraph 5.3.1.4 for execution procedures.

5.3.34.5   **Termination.** - Refer to paragraph 5.3.1.5 the for termination procedure.

5.3.34.6   **Restart.** -Refer to paragraph 5.3.1.6 for restart procedures.

5.3.34.7   **Outputs.** - Outputs of the A/D Converter Diagnostic Function are processed in paragraph 5.3.1.7 and listed below:

REGISTER READBACK - The status field for the Register Readback contains a symbol indicating the status for the A/D Converter boards for the DCP.

REFERENCE VOLTAGE - The status field for the Reference Voltage contains a symbol indicating the status for the A/D Converter boards for the DCP.

5.3.34.8   **Interrelationship.** - Refer to paragraph 5.3.1.8 for interrelationship description.

5.3.35   **DCP #1, #2, #3 A/D Resistor Diagnostic Function.**

The DCP A/D Resistor Diagnostic Function indicates the overall status of the DCP A/D Resistor in the system. There is no additional display for this function. The status field may indicate P (Pass), F (Fail), C (Caution), T (Test), or * (insufficient information).

5.3.36   **DCP #1, #2, #3 Digital I/O Diagnostic Function.**

The DCP Digital I/O Diagnostic Function indicates the overall status of the DCP Digital I/O Converter boards in the system. There is no additional display for this function. The status field may indicate P (Pass), F (Fail), C (Caution), T (Test), or * (insufficient information).

5.3.37   **DCP #1, #2, #3 Power Diagnostic Function.**

The DCP #1, #2, #3 Power Diagnostic Function Display indicates the status of all power-related functions within the DCPs. The display also enables the technician to perform an on-demand diagnostic test of the all power supplies within the DCP. Refer to figure 5-41 for the DCP Power Page and the DCP Power Page Help Screen. The DCP Power Page and Help Screen on DCP#1 will be the same for #2 and #3 with the exception of the title of the DCP. Therefore, only DCP #1 is demonstrated.

5.3.37.1   **Execution Options.** - Refer to Paragraph 5.3.1.2 for execution options.

5.3.37.2   **User Inputs.** - There are no user inputs to the DCP Power Diagnostic Function.

```
  11:21:56 07/04/96 1621Z                                       ANYTOWN AIRPORT
    +)))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))),
  *                            POWER SUPPLIES:                                  *
  *                                                                             *
  *  +2.5 REFERENCE        P                                                    *
  *  +5 SUPPLY #1 VOLTS    P                                                    *
  *  +5 SUPPLY #2 VOLTS    P                                                    *
  * +12 SUPPLY #1 VOLTS    P                                                    *
  * +12 SUPPLY #2 VOLTS    P                                                    *
  * -12 SUPPLY #1 VOLTS    P                                                    *
  * -12 SUPPLY #2 VOLTS    P                                                    *
  *                                                                             *
  *                                                                             *
  *                                                                             *
  *                                                                             *
  *                                                                             *
  *                                                            DCP#1 PWR        *
   *                                                          +)))))0)))))0)))))1
  *                                                          *PRINT*CLEAR*      *
   *                                                          /)))))3)))))3)))))1
  *                                                          *TEST *     *      *
   *                                                          /)))))3)))))3)))))1
  *                                                          *EXIT *BACK *      *
     .))))))))))))))))))))))))))))))))))))))))))))))))))))))))))2)))))2)))))2)))))-
```

```
  11:21:56 07/04/96 1621Z                                       ANYTOWN AIRPORT
    +)))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))),
  *PRINT - PRINT THE CURRENT SCREEN ON THE ASOS PRINTER                        *
  *                                                                             *
  *CLEAR - CLEAR ALL COUNTERS FOR PASS/FAIL FIELDS ON THIS PAGE AND            *
  *ALL PAGES SUMMARIZED BY THIS PAGE                                           *
  *                                                                             *
  *                                                                             *
  *TEST  - RUN EXTENDED DIAGNOSTIC TEST(S) ON THE SELECTED DEVICE              *
  ***** W A R N I N G ****  THIS TEST MAY CAUSE TEMPORARY LOSS OF DATA         *
  *                                                                             *
  *                                                                             *
  *                                                                             *
  *                                                                             *
  *                                                                             *
  *                                                                             *
  *EXIT  - RETURN THE USER TO THE ONE-MINUTE SCREEN                            *
  *                                                                             *
  *BACK  - RETURN THE USER TO THE PREVIOUS SCREEN / KEYPAD                     *
  *                                                                             *
  *                                                                             *
  *                   PRESS HELP OR KEYPAD 0 TO EXIT HELP                       *
  *                                                                             *
     .)))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))-
```

Figure 5-41. DCP Power Page and System Help Screen

5.3.37.3   **System Inputs.** - System inputs to the DCP Power Diagnostic Function are processed in paragraph 5.3.1.3 and listed below:

Power supply status information for the following DCP power supplies is updated during diagnostic execution:

    SUPPLY   STATUS

SUPPLY	STATUS
+2.5 REFERENCE	P
+5 SUPPLY #1 VOLTS	P
+5 SUPPLY #2 VOLTS	P
+12 SUPPLY #1 VOLTS	P
+12 SUPPLY #2 VOLTS	P
-12 SUPPLY #1 VOLTS	P
-12 SUPPLY #2 VOLTS	P

The status field indicates whether or not the data being received from the power supply is valid (logically correct) when compared to the standard specified in the data quality monitoring algorithm.

5.3.37.4   **Execution.** - Refer to paragraph 5.3.1.4 for execution procedures.

5.3.37.5   **Termination.** - Refer to paragraph 5.3.1.5 for the termination procedure.

5.3.37.6   **Restart.** -Refer to paragraph 5.3.1.6 for restart procedures.

5.3.37.7   **Outputs.** - Outputs of the DCP Power Diagnostic Function are processed in paragraph 5.3.1.7 and listed below:

Power supply status information for the following DCP power supplies is updated during diagnostic execution:

    SUPPLY   STATUS

SUPPLY	STATUS
+2.5 REFERENCE	P
+5 SUPPLY #1 VOLTS	P
+5 SUPPLY #2 VOLTS	P
+12 SUPPLY #1 VOLTS	P
+12 SUPPLY #2 VOLTS	P
-12 SUPPLY #1 VOLTS	P
-12 SUPPLY #2 VOLTS	P

The status field indicates whether or not the data being received from the power supply is valid (logically correct) when compared to the standard specified in the data quality monitoring algorithm.

5.3.37.8   **Interrelationship.** - Refer to paragraph 5.3.1.8 for interrelationship description..

5.3.38   <u>**ACU/DCP COMM Diagnostic Function.**</u>

The ACU/DCP COMMS Diagnostic Function provides maintenance personnel with the status of the inter-computer communications devices in the ASOS configuration. Refer to figure 5-42 for the ACU/DCP COMMS Status Page and the ACU/DCP COMMS Status Page Help Screen.

```
  11:21:56 07/04/96 1621Z                                          ANYTOWN AIRPORT
    +)))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))),
  *                  ACU       DCP #1      DCP #2      DCP #3                   *
  *                                                                             *
  * RADIO A                                                                     *
  *  OR L/D A        P         P           P           P                        *
  *                                                                             *
  * RADIO B                                                                     *
  *  OR L/D B        P         P           P           P                        *
  *                                                                             *
  *                                                                             *
  * PRIMARY LINK     A         A           A           A                        *
  *                                                                             *
  * DEGRADED COMMS  P                                                           *
  *                                                                             *
  * HARDFAIL COMMS  P                                                           *
  *                                                            ACU/DCP COMM     *
   *                                                          +)))))0)))))0)))))1
  *                                                          *PRINT*CLEAR*      *
   *                                                          /)))))3)))))3)))))1
  *                                                          *     *     *     *
   *                                                          /)))))3)))))3)))))1
  *                                                          *EXIT *BACK *      *
     .)))))))))))))))))))))))))))))))))))))))))))))))))))))))2)))))2)))))2)))))-
```

```
  11:21:56 07/04/96 1621Z                                          ANYTOWN AIRPORT
    +)))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))),
 *PRINT - PRINT THE CURRENT SCREEN ON THE ASOS PRINTER                         *
 *                                                                             *
 *CLEAR - CLEAR ALL COUNTERS FOR PASS/FAIL FIELDS ON THIS PAGE AND             *
 *ALL PAGES SUMMARIZED BY THIS PAGE                                            *
 *                                                                             *
 *                                                                             *
 *                                                                             *
 *                                                                             *
 *                                                                             *
 *                                                                             *
 *                                                                             *
 *EXIT  - RETURN THE USER TO THE ONE-MINUTE SCREEN                             *
 *                                                                             *
 *BACK  - RETURN THE USER TO THE PREVIOUS SCREEN / KEYPAD                      *
 *                                                                             *
 *                                                                             *
 *                                                                             *
 *                                                                             *
 *                   PRESS HELP OR KEYPAD 0 TO EXIT HELP                       *
 *                                                                             *
     .)))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))-
```

Figure 5-42. ACU/DCP COMM Status Page and System Help Screen

Each computer interface for a class 2 system has a "normal" link and an optional "backup" link for system reliability purposes.

ASOS is configured with either ground line driver (L/D) communications or radio communications between the ACU and the DCPs.

5.3.38.1   **Execution Options.** - Refer to paragraph 5.3.1.2 for execution options.

5.3.38.2   **User Inputs.** - There are no user inputs to the ACU/DCP COMMS Diagnostic Function.

5.3.38.3   **System Inputs.** - System inputs to the ACU/DCP COMMS Diagnostic Function are processed in paragraph 5.3.1.3 and listed below:

For each processor, ACU, DCP #1, DCP #2, and DCP #3:

PRIMARY LINK - Identifies the current device (modem or radio) supporting processor communications;

     "A"   for radio/line driver A.
     "B"   for radio/line driver B.

For each communication device, normal and backup:

ACU, DCP #1, DCP #2, DCP #3

     P   for successful transmission status.
     F   for transmission failure and an associated fail count. (No acknowledgment received.)

NOTE: Radio data is displayed only if the associated radios are configured. The associated link data is only displayed if both radios are configured.*   Insufficient information

DEGRADED COMMS - ACU/DCP communications failures on any link exceed 20 percent over the last 24 hours.

     P   for normal transmission status.
     C   indicates caution with an associated fail count.

HARDFAIL COMMS - Communications failures are detected continuously for a full minute on any ACU/DCP communications link.

     P   for normal transmission status
     F   Communications link is in a hard fail mode with an associated fail count.

5.3.38.4   **Execution.** - Refer to paragraph 5.3.1.4 for execution procedures.

5.3.38.5   **Termination.** - Refer to paragraph 5.3.1.5 for the termination procedure.

5.3.38.6   **Restart.** - Refer to paragraph 5.3.1.6 for restart procedures.

5.3.38.7   **Outputs.** - Outputs of the ACU/DCP COMMS Diagnostic Function are processed in paragraph 5.3.1.7 and described below:

An * is provided in all processor output fields that the applicable test or the applicable status has not been recorded by the system.

For each processor, ACU, DCP #1, DCP #2, and DCP #3:

PRIMARY LINK - Identifies the current device supporting processor communications;

> "A"   for radio/line driver A.
> "B"   for radio/line driver B.

For each communication devices, primary and backup:

ACU, DCP #1, DCP #2, DCP #3

> P   for normal transmission status.
> F   for transmission failure and an associated fail count. (No acknowledgment received.)

> **NOTE:**   Radio data is displayed only if the associated radios are
>   configured. The associated link data is only displayed if both
>   radios are configured.

DEGRADED COMMS - ACU/DCP communications failures on any link exceed 20 percent over the last 24 hours.

> P   for normal transmission status.
> C   indicates caution with an associated fail count.

HARDFAIL COMMS - Communications failures are detected continuously for a full minute on any ACU/DCP communications link.

> P   for normal transmission status.

> F   Communications link is in a hard fail mode with an associated fail count.

5.3.38.8   **Interrelationship.** - Refer to paragraph 5.3.1.8 for interrelationship description.

5.3.39   **Trend Function.**

The Trend Function provides maintenance personnel with the capability to observe trends in the failures of radios A and B. Refer to figure 5-43 for the Trend Page and the Trend Page Help Screen. For additional information, refer to the Site Technical Manual.

5.3.39.1   **Execution Options.** - Refer to paragraph 5.3.1.2 for execution options.

5.3.39.2   **User Inputs.** - There are no user inputs to the Trend Function.

5.3.39.3   **System Inputs.** - System inputs to the Trend Function are processed as shown in paragraph 5.3.1.3 and listed below:

```
 11:21:56 07/04/96 1621Z                                          ANYTOWN AIRPORT
    +))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))),
* RADIO / LINE DRIVER A  DCP #1 FAILCOUNTS / PERCENTAGES  RADIO / LINE DRIVER B*
*00/00 00000 0.000% 00/00 00000 0.000%   00/00 00000 0.000% 00/00 00000 0.000%*
*00/00 00000 0.000% 00/00 00000 0.000%   00/00 00000 0.000% 00/00 00000 0.000%*
*00/00 00000 0.000% 00/00 00000 0.000%   00/00 00000 0.000% 00/00 00000 0.000%*
*00/00 00000 0.000% 00/00 00000 0.000%   00/00 00000 0.000% 00/00 00000 0.000%*
*00/00 00000 0.000% 00/00 00000 0.000%   00/00 00000 0.000% 00/00 00000 0.000%*
*00/00 00000 0.000% 00/00 00000 0.000%   00/00 00000 0.000% 00/00 00000 0.000%*
*00/00 00000 0.000% 00/00 00000 0.000%   00/00 00000 0.000% 00/00 00000 0.000%*
*00/00 00000 0.000% 00/00 00000 0.000%   00/00 00000 0.000% 00/00 00000 0.000%*
*00/00 00000 0.000% 00/00 00000 0.000%   00/00 00000 0.000% 00/00 00000 0.000%*
*00/00 00000 0.000% 09/19 00000 0.417%   00/00 00000 0.000% 09/19 00000 9.866%*
*00/00 00000 0.000% 09/20 00000 0.000%   00/00 00000 0.000% 09/20 00000 0.000%*
*00/00 00000 0.000% 09/21 00000 0.000%   00/00 00000 0.000% 09/21 00000 0.000%*
*00/00 00000 0.000%                      00/00 00000 0.000%                    *
*00/00 00000 0.000%                      00/00 00000 0.000%      TREND         *
 *00/00 00000 0.000%                       00/00 00000 0.000% +)))))0)))))0)))))1
*00/00 00000 0.000%                      00/00 00000 0.000% *PRINT*     *      *
 *00/00 00000 0.000%                       00/00 00000 0.000% /)))))3)))))3)))))1
*00/00 00000 0.000%                      00/00 00000 0.000% *DCP1 *DCP2 *DCP3 *
 *00/00 00000 0.000%                       00/00 00000 0.000% /)))))3)))))3)))))1
*                                                            *EXIT *BACK *ACU  *
    .))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))2)))))2)))))2)))))-
```

```
 11:21:56 07/04/96 1621Z                                          ANYTOWN AIRPORT
      +))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))),
*PRINT - PRINT THE CURRENT SCREEN ON THE ASOS PRINTER                          *
*                                                                              *
*                                                                              *
*                                                                              *
*                                                                              *
*                                                                              *
*DCP1 -  ALLOWS THE USER TO VIEW THE DCP #1 COMMS FAILCOUNTS AND THE           *
*PERCENT OF DCP #1 COMMS FAILCOUNTS                                            *
*DCP2 -  ALLOWS THE USER TO VIEW THE DCP #2 COMMS FAILCOUNTS AND THE           *
*PERCENT OF DCP #2 COMMS FAILCOUNTS                                            *
*DCP3 -  ALLOWS THE USER TO VIEW THE DCP #3 COMMS FAILCOUNTS AND THE           *
*PERCENT OF DCP #3 COMMS FAILCOUNTS                                            *
*EXIT  - RETURN THE USER TO THE ONE-MINUTE SCREEN                              *
*                                                                              *
*BACK  - RETURN THE USER TO THE PREVIOUS SCREEN / KEYPAD                       *
*                                                                              *
*ACU   - ALLOWS THE USER TO VIEW THE ACU COMMS FAILCOUNTS AND THE             *
*PERCENT OF ACU COMMS FAILCOUNTS                                               *
*                                                                              *
*                    PRESS HELP OR KEYPAD 0 TO EXIT HELP                       *
*                                                                              *
    .)))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))-
```

Figure 5-43. Trend Page and System Help Screen

Trend analysis data for the ACU.

Trend analysis data for DCP #1.

Trend analysis data for DCP #2.

Trend analysis data for DCP #3.

5.3.39.4 **Execution.** - Refer to paragraph 5.3.1.4 for execution procedures.

5.3.39.5 **Termination.** - Refer to paragraph 5.3.1.5 for the termination procedure.

5.3.39.6 **Restart.** -Refer to paragraph 5.3.1.6 for restart procedures.

5.3.39.7 **Outputs.** - Outputs of the Trend Function are processed as shown in paragraph 5.3.1.7 and listed below:

A printout of ACU trend analysis data.

A printout of DCP #1 trend analysis data.

A printout of DCP #2 trend analysis data.

A printout of DCP #3 trend analysis data.

5.3.39.8 **Interrelationship.** - Refer to paragraph 5.3.1.8 for interrelationship description.

5.3.40 **Processor Status Function.**

The Processor Status Function provides maintenance personnel with the capability to; 1) Observe the operational status of the system processors, ACU and DCPs; 2) Re-initialization of the ACU or DCPs, and 3) generation of a selective Error Message Report. Refer to figure 5-44 for the Processor Status Page and the Processor Status Page Help Screen.

5.3.40.1 **Execution Options.** - Refer to paragraph 5.3.1.2 for the execution option and the menu commands listed below:

MENU COMMANDS

ACU - Initialize the ACU. This results in a reboot of the ACU and the system reverts to its initial startup condition.

DCP #1 HARD - DCP #1 is reloaded and restarted.

DCP #1 SOFT - DCP #1 is restarted only.

DCP #2 HARD - DCP #2 is reloaded and restarted.

DCP #2 SOFT - DCP #2 is restarted only.

```
  11:21:56 07/04/96 1621Z                                              ANYTOWN AIRPORT
      +)))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))),
   *                                                                                  *
   *                                                                                  *
   *                                                                                  *
   *              ACU      RUNNING                                                    *
   *                                                                                  *
   *              DCP #1   INITIALIZING                                               *
   *                 HARD                                                             *
   *                 SOFT                                                             *
   *                                                             ARE YOU SURE (Y/N)?  *
   *              DCP #2   INITIALIZING                                               *
   *                 HARD                                                             *
   *                 SOFT                                                             *
   *                                                                                  *
   *              DCP #3   RUNNING                                                    *
   *                 HARD                                              PROCESSOR STATS *
    *                SOFT                                             +)))))0)))))0)))))1
   *                                                                 *PRINT*     *PREV *
    *                                                                /)))))3)))))3)))))1
   *         START PRINT      END PRINT                              *RESET*CHANG*     *
    *            ____            ____                                /)))))3)))))3)))))1
   *                                                                *EXIT *BACK *NEXT *
      .))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))2)))))2)))))2)))))-



  11:21:56 07/04/96 1621Z                                              ANYTOWN AIRPORT
      +)))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))),
  *PRINT - PRINT THE CURRENT SCREEN ON THE ASOS PRINTER                                *
  *                                                                                    *
  *                                                                                    *
  *                                                                                    *
  *PREV  - MOVE THE CURSOR TO THE PREVIOUS FIELD                                       *
  *                                                                                    *
  *RESET - ALLOWS THE USER TO PERFORM SELECTED RESET FUNCTION                          *
  *                                                                                    *
  *CHANG - ALLOW THE USER TO CHANGE DATA ON THE CURRENT SCREEN                         *
  *                                                                                    *
  *                                                                                    *
  *                                                                                    *
  *EXIT  - RETURN THE USER TO THE ONE-MINUTE SCREEN                                    *
  *                                                                                    *
  *BACK  - RETURN THE USER TO THE PREVIOUS SCREEN / KEYPAD                             *
  *                                                                                    *
  *NEXT  - MOVE THE CURSOR TO THE NEXT FIELD                                           *
  *                                                                                    *
  *                                                                                    *
  *                  PRESS HELP OR KEYPAD 0 TO EXIT HELP                               *
  *                                                                                    *
     .))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))-
```

Figure 5-44. Processor Status Page and System Help Screen

DCP #3 HARD - DCP #3 is reloaded and restarted.

DCP #3 SOFT - DCP #3 is restarted only.

5.3.40.2   **User Inputs.** - User inputs to the Processor Status Function are:

Start print number.

End print Number.

5.3.40.3   **System Inputs.** - System inputs to the Processor Status Function are processed as shown in paragraph 5.3.1.3 and are listed below:

Status of ACU - Operational or Initializing.

Status of DCP #1 - Operational or Initializing, Hard Reset, Soft Reset.

Status of DCP #2 - Operational or Initializing, Hard Reset, Soft Reset.

Status of DCP #2 - Operational or Initializing, Hard Reset, Soft Reset.

5.3.40.4   **Execution.** - Refer to paragraph 5.3.1.4 for execution procedures and the following DCP specific procedures:

- a.   At the One-minute screen, sign on the system as a System Manager or a Technician using the SIGN Function.

- b.   Select the Maintenance Function key from the function key template. When the Maintenance Function is selected, the Maintenance Function keypad template and menu options are displayed, along with the overall status of the ACU, DCPs, and the ACU peripherals.

- c.   Select the Processor Status Function from the displayed menu by using the PREV or NEXT keys to position the cursor at the menu command and then pressing the SEL key.

- d.   If a hardcopy of the currently displayed status data is desired, press the PRINT key.

- e.   If re-initialization of DCP #1 is desired, then perform the following steps:

    - 1.   Using the PREV/NEXT key, place the cursor over SOFT for DCP #1. SOFT causes the DCP to perform normal initialization only.

    - 2.   Press the RESET key.

    - 3.   A verification prompt "ARE YOU SURE (Y/N)?" will appear. Press Y.

    - 4.   Observe that the associated status field displays SOFT RESET. When the processor is ready, this field will contain RUNNING.

      If initialization of a non-configured DCP is selected, an audio alarm, (Beep), is heard and the request is ignored.

f.   If reboot and re-initialization of DCP #1 is desired, then perform the following steps:

1.   Using the PREV/NEXT key, place the cursor over HARD for DCP #1. HARD causes a reloading of the DCP software and normal initialization activities.

2.   Press the RESET key.

3.   A verification prompt "ARE YOU SURE (Y/N)?" will appear. Press Y.

4.   Observe that the associated status field displays HARD RESET. When the processor is ready, this field will contain RUNNING.

If initialization of a non-configured DCP is selected, an audio alarm, (Beep), is heard and the request is ignored.

g.   If re-initialization of DCP #2 is desired, then perform the following steps:

1.   Using the PREV/NEXT key, place the cursor over SOFT for DCP #2. SOFT causes the DCP to perform normal initialization only.

2.   Press the RESET key.

3.   A verification prompt "ARE YOU SURE (Y/N)?" will appear. Press Y.

4.   Observe that the associated status field displays SOFT RESET. When the processor is ready, this field will contain RUNNING.

If initialization of a non-configured DCP is selected, an audio alarm, (Beep), is heard and the request is ignored.

h.   If reboot and re-initialization of DCP #2 is desired, then perform the following steps:

1.   Using the PREV/NEXT key, place the cursor over HARD for DCP #2. HARD causes a reloading of the DCP software and normal initialization activities.

2.   Press the RESET key.

3.   A verification prompt "ARE YOU SURE (Y/N)?" will appear. Press Y.

4.   Observe that the associated status field displays HARD RESET. When the processor is ready, this field will contain RUNNING.

If initialization of a non-configured DCP is selected, an audio alarm, (Beep), is heard and the request is ignored.

i.   If re-initialization of DCP #3 is desired, then perform the following steps:

1.   Using the PREV/NEXT key, place the cursor over SOFT for DCP #3. SOFT causes the DCP to perform normal initialization only.

2.   Press the RESET key.

      3.   A verification prompt "ARE YOU SURE (Y/N)?" will appear. Press Y.

      4.   Observe that the associated status field displays SOFT RESET. When the processor is ready, this field will contain RUNNING.

             If initialization of a non-configured DCP is selected, an audio alarm, (Beep), is heard and the request is ignored.

j.   If reboot and re-initialization of DCP #3 is desired, then perform the following steps:

      1.   Using the PREV/NEXT key, place the cursor over HARD for DCP #3. HARD causes a reloading of the DCP software and normal initialization activities.

      2.   Press the RESET key.

      3.   A verification prompt "ARE YOU SURE (Y/N)?" will appear. Press Y.

      4.   Observe that the associated status field displays HARD RESET. When the processor is ready, this field will contain RUNNING.

             If initialization of a non-configured DCP is selected, an audio alarm, (Beep), is heard and the request is ignored.

k.   If re-initialization of the ACU is desired, then:

      1.   Using the PREV/NEXT key, place the cursor over the ACU Menu command.

      2.   Press the RESET key.

      3.   A verification prompt "ARE YOU SURE (Y/N)?" will appear. Press Y.

      4.   A system reboot is initiated and a message box appears denoting reboot followed by the normal ASOS starting page.

             When initializing both the ACU and 1 or more DCPs, initialize the ACU first.

l.   If generation of a Maintenance Log Error Report is desired, then:

      1.   Move cursor (using NEXT or PREV) to the START PRINT area of the screen.

      2.   Press the CHANG key to enter Edit Mode.

      3.   The cursor is placed at the START PRINT field. Enter the desired Error Code, these may be found in section Chapter 4, to begin the report. Press RETURN when number entered.

      4.   The cursor is place at the END PRINT field. Enter the desired Error Number to end the report. Press RETURN when number entered.

      5.   Maintenance Log Error Report is generated and sent to the printer.

             If a user input error is identified in the Error Number entered, then an audio alarm (Beep) is heard and an error message is displayed and then, Edit Mode is exited. The user must then repeat steps 1 through 5. Possible errors include; non-numeric characters and start greater than end.

    m.   If return to the previous page is desired, press the BACK key.

    n.   If return to the one-minute screen is desired, press the EXIT key.

5.3.40.5 **Termination.** - Refer to paragraph 5.3.1.5 for the termination procedure.

5.3.40.6 **Restart.** -Refer to paragraph 5.3.1.6 for the restart procedures.

5.3.40.7 **Outputs.** - Outputs of the Processor Status Function are processed as shown in paragraph 5.3.1.7 and are shown below:

ACU	- "RUNNING"	-Operational.
	- "INITIALIZING"	-Initializing.
DCP #1	- "RUNNING"	-Operational.
	- "FAILED"	-No ACU-DCP communications.
	- "INITIALIZING"	-Initializing DCP program (i.e. downloading).
	- "HARD RESET"	-Hard Reset selected and activated.
	- "SOFT RESET"	-Soft Reset selected and activated.
DCP #2	- "RUNNING"	-Operational.
	- "FAILED"	-No ACU-DCP communications.
	- "INITIALIZING"	-Initializing DCP program (i.e. downloading).
	- "HARD RESET"	-Hard Reset selected and activated.
	- "SOFT RESET"	-Soft Reset selected and activated.
DCP #3	- "RUNNING"	-Operational.
	- "FAILED"	-No ACU-DCP communications.
	- "INITIALIZING"	-Initializing DCP program (i.e. downloading).
	- "HARD RESET"	-Hard Reset selected and activated.
	- "SOFT RESET"	-Soft Reset selected and activated.

5.3.40.8 **Interrelationship.** - Refer to paragraph 5.3.1.8 for interrelationship description.

5.3.41 **ADAS Summary Screen.**

The ADAS summary screen provides maintenance personnel with a record of communication status between ADAS and ASOS. Refer to figure 4-45 for the ADAS Summary Screen. This screen displays continuous hourly counts over a 24-hour period to indicate any of four status conditions that occur during each hour.

```
 11:21:56 11/21/97 1621Z                                      ANYTOWN AIRPORT
    +))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))),
 *                                                                             *
 *    HRBEG  SP   LP   LNK  DIS         HRBEG  SP   LP   LNK  DIS               *
 *                                                                             *
 *    12:00  000  000  000  000         00:00  000  000  000  000              *
 *    13:00  000  000  000  000         01:00  000  000  000  000              *
 *    14:00  000  000  000  000         02:00  000  000  000  000              *
 *    15:00  000  000  000  000         03:00  001  000  001  000              *
 *    16:00  000  000  000  000         04:00  000  001  000  001              *
 *    17:00  000  000  000  000         05:00  000  000  000  000              *
 *    18:00  000  000  000  000         06:00  000  000  000  000              *
 *    19:00  000  000  000  000         07:00  000  000  000  000              *
 *    20:00  000  000  000  000         08:00  000  000  000  000              *
 *    21:00  000  000  000  000         09:00  000  000  000  000              *
 *    22:00  000  000  000  000         10:00  000  000  000  000              *
 *    23:00  000  000  000  000         11:00  000  000  000  000              *
 *                                                                ADAS SUMMARY *
  *                                                            +)))))0)))))0)))))1
 *                                                            *PRINT*     *     *
  *                                                            /)))))3)))))3)))))1
 *                                                            *     *     *     *
  *                                                            /)))))3)))))3)))))1
 *                                                            *EXIT *BACK *     *
    .)))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))2)))))2)))))2)))))-
```

```
 11:21:56 07/04/96 1621Z                                      ANYTOWN AIRPORT
    +))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))),
*PRINT - PRINT THE CURRENT SCREEN ON THE ASOS PRINTER                         *
 *                                                                             *
 *                                                                             *
 *                                                                             *
 *                                                                             *
 *                                                                             *
 *                                                                             *
 *                                                                             *
 *                                                                             *
 *                                                                             *
 *                                                                             *
 *                                                                             *
 *                                                                             *
 *                                                                             *
 *                                                                             *
*EXIT  - RETURN THE USER TO THE ONE-MINUTE SCREEN                             *
 *                                                                             *
*BACK  - RETURN THE USER TO THE PREVIOUS SCREEN / KEYPAD                      *
 *                                                                             *
 *                                                                             *
 *                                                                             *
 *                                                                             *
 *                                                                             *
 *                   PRESS HELP OR KEYPAD 0 TO EXIT HELP                       *
 *                                                                             *
    .)))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))-
```

Figure 5-45. ADAS Summary Page and System Help Screen

These status conditions include the following: SP (ADAS has started polling ASOS), LP (ASOS has lost poll from ADAS), LNK (ADAS-ASOS link established), and DIS (ADAS has disconnected from ASOS).

5.3.41.1   **Execution Options.** - Refer to paragraph 5.3.1.2 for execution options.

5.3.41.2   **User Inputs.** - There are no user inputs to the ADAS Summary Screen.

5.3.41.3   **System Inputs.** - System inputs to the ADAS Summary Screen are:

ADAS to ASOS communications status.

5.3.41.4   **Execution.** - Refer to paragraph 5.3.1.4 for the execution procedures.

5.3.41.5   **Termination.** - Refer to paragraph 5.3.1.5 for the termination procedure.

5.3.41.6   **Restart.** - Refer to paragraph 5.3.1.6 for restart procedures.

5.3.41.7   **Outputs.** - Outputs of the ADAS Summary Function are:

A printout of ADAS Summary data.

5.3.41.8   **Interrelationship.** - Refer to paragraph 5.3.1.8 for interrelationship description.

CHAPTER 6
ACRONYMS AND ABBREVIATIONS

This section contains the acronyms and abbreviations used in this manual.

12-HR	12-Hour Archive Function
5MIN	5-Minute Observation Function
AC	Alternating Current
ACU	Acquisition Control Unit
ADAS	AWOS Data Acquisition System
AFOS	Automation of Field Operations and Services
ALGOR	Algorithm Function
ANSI	American National Standards Institute
ANSWR	Phone-Answer Function
AOMC	ASOS Operations and Monitoring Center / Function
ARC2H	Archive 2-Hour Snapshot of 5-Minute Observations Function
ASCII	American Standard Code Information Interchange
ASOS	Automated Surface Observing System
ATC	Air Traffic Controller Level User
AUX	Auxiliary Display Data Function
AWOS	Automated Weather Observation System
BITE	Built In Test Equipment
CDRL	Contract Data Requirement List
CHANG	Change Function
CM	Configuration Management
CMD	Command Function
CNCL	Cancel Function
COMLG	Communications Log Function
COMMS	Communications Function
CONFG	Configuration Function
COR	Correction Function
CPU	Central Processing Unit
CRIT	Criteria Function
CRT	Cathode Ray Tube
CSC	Computer Software Component
CSCI	Computer Software Configuration Item
CVSD	Continuously Variable Slope Delta
DC	Direct Current
DCP	Data Collection Package
DEFIN	Define Function
DOD	Department of Defense
DSM	Daily Summary Message / Function
EDIT	Edit Function
EDTLG	Edit Log Function
EPROM	Erasable Programmable Read Only Memory
FAA	Federal Aviation Administration
FIBI	Filed, But Impractical to transmit
FIFO	First In First Out
FRU	Field Replaceable Unit
FUNNL	Funnel Cloud SPECI Function

GENOB	Generate Observation Function
GFE	Government Furnished Equipment
GTA	Ground To Air
HDWE	Hardware Function
HWCI	Hardware Configuration Item
ICD	Interface Control Document
ID	Identification
I/F	Interface
I/O	Input/Output
LST	Local Standard Time
MAINT	Maintenance Function
MAN	Manual Remarks Edit Function
METAR	Meteorological Aviation Routine Weather Report
MSM	Monthly Summary Message / Function
NORML	Climatological Normals Function
NOTAM	Notice to Airmen
NWS	National Weather Service
OBS	Observer Level User
OID	Operator Interface Device
PHYS	Site Physical Characteristics Function
PRESS	Pressure Reduction Ratio / Constant Function
PREV	Previous Function
PROC	Report Process Control Function
PROM	Programmable Read Only Memory
RAM	Random Access Memory
RCORD	Record NOTAM Function
REM	Edit Remarks Function
REPRO	Reprocess Function
REV2H	Review Archived 2-Hour Snapshots of 5-Minute Observations Function
REVUE	Review System Parameters Function
RFP	Request For Proposal
RMM	Remote Maintenance Monitoring
ROM	Read Only Memory
RPLAY	Replay NOTAM Function
RPT	Report Function
RTC	Real Time Clock
RTS	Request to Send
RVR	Runway Visual Range
SENSR	Sensor Function
SEQN	Sequence Through Selectable Entries Function
SHEF	Standard Hydrometerological Exchange Format
SIGN	Sign On/Off Function
SIO	Serial I/O
SMI	Systems Management Incorporated
SOW	Statement Of Work
SPEC	Manually-Generate a SPECI Report Function
SPECI	Aviation Selected Special Weather Report
SRS	Software Requirements Specification
STAT	Sensor Status Function
STD	Standard
SUM	Software User's Manual

SW	Software Version Function
SYS	System Manager Level User
SYSLG	System Maintenance Log Function
TCCC	Tower Computer Control Complex
TEC	Technician Level User
TORN	Tornado Remarks Function
TRNDO	Tornado SPECI Function
TWR	Tower Visibility Function
UART	Universal Asynchronous Receiver/Transmitter
UNS	Unsigned Level User
UPDAT	Update Current Sensor Data Function
UPS	Uninterruptible Power Supply
UTC	Universal Time Coordinated
VDU	Video Display Unit
VERSN	Version Function
VME	Virtual Memory Extension
WTRSP	Waterspout SPECI Generation Function
WX	Weather Function
XMIT	Transmit SPECI Report Function

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APPENDIX I
EDIT Function Rules and Quality Control

The rules and quality control checks in this Appendix are enforced during the edit process to the indicated field on the 1-Minute Screen. Editing a selected field is terminated by using one of the following: PREV or NEXT function key; the OID keyboard Up Arrow or Down Arrow; or the Return key. Upon termination, the contents of the field are checked in accordance with the field-dependent rules provided below. Failure to pass any of the rules results in the display of an error message and the sounding of an audible tone. If an error is detected, the user must perform one of three following options: (1) correct the field to pass all data quality checks; (2) select the ABORT function key; or (3) select the RESET function key.

1. SKY Field

- Blank SKY field entry is invalid.
- The only acceptable cloud layer descriptors are "CLR," "FEW," "SCT," "BKN," "OVC", and "VVnnn" where "nnn" is a layer between 000 and 020.
- Only a maximum of 3 cloud layers below 12000 feet are allowed in the cloud report.
- Only a maximum of 3 augmented cloud layers above 12000 feet are allowed.
- Maximum cloud height for an augmented layer is 35000 feet.
- Cloud heights must be increasing in value from left to right.
- The format for cloud layers is one of the following:
    (1) DDDNNN where:
        DDD is the layer description FEW, SCT, BKN, or OVC
        NNN is the layer height (in hundreds of feet) in the range of
            0 - 350 (0 to 35,000 feet).
    (2) VVnnn where:
        VV stands for vertical visibility
        "nnn" is the layer height between 000 and 020.
        No additional layers may follow.
- CLR assumes clear below 12000 feet so 0-3 additional layers may follow.
- Only 1 OVC occurrence allowed.
- Only 1 FEW occurrence allowed.
- space required after each layer (layer=description + height)
- 000 is an invalid layer height when used with FEW, SCT, BKN, and OVC
- layer height may not exceed 3 digits

2. VISIBILITY Field

- Blank VISIBILITY field entry is invalid.
- The VISIBILITY field must be 1 of the following valid entries: 0SM, 1/16SM, 1/8SM, M1/4SM, 1/4SM, 1/2SM, 3/4SM, 1SM, 1 1/4SM, 1 1/2SM, 1 3/4SM, 2SM, 2 1/2SM, 3SM, 4SM, 5SM, 6SM, 7SM, 8SM, 9SM, and 10SM.
- The space between whole number and fraction is not necessary. For example, 1 1/4 and 11/4 will both be accepted, treated equally, and corrected if necessary.
- "SM" does not have to be entered by the operator, but will be added automatically if omitted. For example, 1/2 will be corrected to 1/2SM.

3. PRESENT WX Field

The METAR present weather field contains 4 group types. Of these 4 group types, only 3 may appear in the present weather field at one time and they must appear in the priority order listed below with 1 space separating each group type. No spaces separate the identifiers within the same group type.

The Precipitation group type contains the thunderstorm identifier (TS), and if it exists, it must always appear as the first identifier in the group type. Also, if an intensity modifier exists, it appears as the first character listed in the Precipitation group type. The identifier that matches that intensity modifier is encoded immediately following the intensity modifier or the thunderstorm identifier if it also exists, e.g., "+TSRASN" or "+RASN."

The Obscuration group type is considered a group by itself. Thus when more than 1 obscuration exists, they are separated by 1 space, e.g., "+RAGS VA FU" or "FZFG FU VA."

PRESENT WEATHER GROUPS ARE TO BE ENCODED IN THE FOLLOWING PRIORITY:
1) Tornadic Activity (+FC or FC)
2) Precipitation
3) Obscurations
4) Other Phenomena - SQUALL (SQ)

TORNADIC ACTIVITY:

+FC	Tornado or Waterspout	Augment
FC	Funnel Cloud	Augment

PRECIPITATION:

TS	Thunderstorm	Automated (selected sites)/Edit or Augment
GR	Large Hail	Augment
GS	Small Hail	Augment
DZ	Drizzle (-DZ, DZ, +DZ)	Augment
FZDZ	Freezing Drizzle	
	(-FZDZ, FZDZ, +FZDZ)	Augment
RA	Rain (-RA, RA, +RA)	Automated/Edit
FZRA	Freezing Rain	
	(-FZRA, FZRA)	Automated/Edit
	(+FZRA)	Augment
SN	Snow (-SN, SN, +SN)	Automated/Edit
PE/PL	Ice Pellets	Augment
	(-PE/-PL, PE/PL, +PE/+PL)	**NOTE**: PE will be reported as PL after a designated date.
UP	Unknown Precipitation	Automated Only

OBSCURATIONS:

FG	Fog	Automated/Edit
FZFG	Freezing Fog	Automated/Edit
MIFG	Shallow Fog	Augment
BCFG	Patchy Fog	Augment
VCFG	Fog in the Vicinity	Augment
BR	Mist	Automated/Edit
HZ	Haze	Automated/Edit

(Obscurations Continued on Next Page)

OBSCURATIONS: (Continued)

BLSN	Blowing Snow	Automated/Edit
VCBLSN	Blowing Snow in the Vicinity	Augment
VA	Volcanic Ash	Augment
FU	Smoke	Augment
DU	Dust	Augment
BLDU	Blowing Dust	Augment
VCBLDU	Blowing Dust in the Vicinity	Augment
SA	Sand	Augment
BLSA	Blowing Sand	Augment
VCBLSA	Blowing Sand in theVicinity	Augment
SS	Sandstorm (SS, +SS)	Augment
VCSS	Sandstorm in the Vicinity	Augment
DS	Duststorm (DS, +DS)	Augment
VCSS	Duststorm in the Vicinity	Augment

OTHER PHENOMENA

SQ	Wind Squall	Automated/Edit

4. TEMP/DEWPT Field

- Blank TEMP field entry is invalid.
- TEMP field value may be preceded by a minus sign.
- TEMP field value must be within the temperature sensor range (-62.2 to 54.4 degrees Celsius / -80 to 130 degrees Fahrenheit).
- Blank DEWPT field entry is invalid.
- DEWPT field value may be preceded by a minus sign.
- DEWPT field value must be within the dewpoint temperature sensor range (-62.2 to 30 degrees Celsius / -80 to 86 degrees Fahrenheit).
- DEWPT field value must be less than or equal to the TEMP field.

5. WIND DIR/SPD Field

- Blank WIND DIR/SPD field entry is invalid.
- WIND DIR/SPD field must include the "/" character to separate wind direction from wind speed.
- Wind direction, variable max wind direction, and variable min wind direction must be in range 0 to 360 degrees rounded to nearest ten degrees, e.g., 170V240.
- Wind speed, wind direction, variable max wind direction, variable min wind direction and gust speed may not exceed 3 characters and may only be digits.
- Wind direction must precede the "/" character.
- Wind speed must follow "/" character.
- Wind speed must be either 0 or in the range of 3 to 300 knots.
- Only the character "G" can follow wind speed.
- If a "G" is present, it must be followed by a gust speed in the range 12 to 300 knots.
- Gust speed must exceed wind speed by 3 knots.
- If wind speed is 0 knots, wind direction must be 0 degrees to indicate calm winds.
- If wind dir is 0 degrees, wind speed must be 0 knots to indicate calm winds.
- If variable min/max wind directions exist, "V" is needed to separate the two directions, e.g., 170V240.
- Variable Min Wind Direction must precede "V".

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-        Variable Max Wind Direction must follow "V".
-        Variable Min/Max Wind Direction must have wind speeds that exceed 6 knots.
-        Wind direction and wind speed must be encoded in one of the following formats on the 1-Minute Screen:

Format	Example
dir/spd	180/15
dir/spdGsss	180/15G30
dir/spd minVmax	180/15 150V220
dir/spdGsss minVmax	180/15G30 150V220
VRB/spd	VRB/05
VRB/spdGsss	VRB/05G13

where:

dir = a 3-character wind direction
spd = a 2 or 3 character wind speed
sss = a 2 or 3 character gust speed
G = G (gust)
VRB = VRB (variable)
min = a 3-character variable minimum wind direction
max = a 3-character variable maximum wind direction
V = V (variable)

6. ALTIMETER Field

-        Blank ALTIMETER field entry is invalid.
-        ALTIMETER field value must be within the altimeter setting range (26.00 to 31.00 inches of mercury).
-        Whole numbers or numbers with only 1 decimal place will be extended to 2 decimal places by appending a zero (0), e.g., 28.9 will be encoded as 28.90 automatically.

7. Automated REMARKS Field

-        Automated remarks may only be deleted from the REMARKS field.

8. Manual REMARKS Field

-        Manual remarks are free form entries.
-        2 or more spaces are stripped out to become 1 space.

9. Tornadic REMARKS Field

-        A combination of automated and freeform entries
-        2 or more spaces are stripped out to become 1 space.

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APPENDIX II

CONFIGURING THE OID TERMINAL

To configure the OID, perform the following steps:

<div style="border:1px solid black; padding:10px;">

NOTE

The ENTER key referenced in this procedure is located in the AUX keypad area of the keyboard. Do not use the ENTER key located in the main keypad area.

</div>

Step   **Description**

1.   Apply power to the OID.

2.   At the OID keyboard, press the F3 (SET-UP) key. System displays the terminal setup
            directory.

3.   Using the cursor keys, move right to the SCREEN submenu.

4.   Verify that the functions below are displayed.

            WIDTH CHANGE CLEAR   ON
            SCREEN COLUMN   80
            SCREEN DATA LINES   24
            PAGE COLUMNS   132
            PAGE LINES   24/25
            PAGE LINE MULTIPLIER   1
            NUMBER OF PAGES   1
            NUMBER OF SESSIONS   1
            SESSION DISPLAY, SPLIT 1, FULL
            POWER-ON TAB STOPS   OFF
            TAB STOPS

5.   Using the cursor keys and ENTER key, select and toggle each field that does not contain
            the correct information.

6.   Using the cursor keys, move right to the MODES submenu.

Step	Description

7.   Verify that the functions below are displayed.

                FEATURE LOCK   OFF
                CONTROLS MODE   INTERRUPT
                RECEIVED CR   CR
                RECEIVED LF   LF
                TRANSMIT MODE   8-BIT
                TRANSFER/PRINT/SEND
                ANSWERBACK MESSAGE
                BELL SETTINGS
                PERSONALITY

8.   Using the cursor keys and ENTER key, select and toggle each field that does not contain the correct information.

9.   Using the cursor keys and ENTER key, select BELL SETTINGS.

10.   BELL TONE AND BELL VOLUME are user preference and may be set accordingly. Press SHIFT UP-ARROW to return to the MODES submenu.

11.   Using the cursor keys and ENTER key, select PERSONALITY.

12.   Using the cursor keys and ENTER key, select VT320/VT220. If the entry is changed, an ARE YOU SURE?(Y/N)Y verification message appears. Press ENTER. System returns to the MODES submenu.

13.   Using the cursor keys, move right to the DISPLAY submenu.

14.   Verify that the following functions are displayed.

                SCREEN SAVER OFF
                SCREEN SAVER MODE   BLANK
                REVERSE SCREEN   OFF
                SCROLL SPEED JUMP
                TOP STATUS LINE   BLANK
                HOST MESSAGE   OFF
                SCREEN RESOLUTION   16x16
                DISPLAY FUNCTIONS
                CURSOR DISPLAY

15.   Using the cursor keys and ENTER key, select and toggle each field that does not contain the correct information.

16.   Using the cursor keys and ENTER key, select CURSOR DISPLAY.

17.   BLINK and CURSOR COLOR are user preference and may be set accordingly. Press SHIFT UP-ARROW to return to the DISPLAY submenu.

18.   Using the cursor keys, move right to the ATTRIBUTES submenu.

Step	Description

19.   Verify that the functions below are displayed.

                         SETUP MENU COLOR   BLUE
                         FOREGROUND COLOR   WHITE
                         BACKGROUND COLOR
                         NORMAL COLORS
                         BOLD COLORS
                         DIM COLORS
                         BORDER COLOR
                         NORMAL ATTRIBUTES
                         BOLD ATTRIBUTES
                         DIM ATTRIBUTES

20.   Using the cursor keys and ENTER key, select and toggle each field that does not contain
              the correct information.

21.   Using the cursor keys, move right to the PORT submenu.

22.   Verify that the functions below are displayed.

                         COMMUNICATIONS MODE   FULL DPX
                         ON-LINE/LOCAL   ON-LINE
                         TRACE   BOTH
                         PORT A SETTINGS
                         PORT B SETTINGS
                         COMMUNICATIONS CARTRIDGE
                         SESSION RESOURCES

23.   Using the cursor keys and ENTER key, select and toggle each field that does not contain
              the correct information.

24.   Using the cursor keys and ENTER key, select PORT A SETTING.

25.   Verify that the functions below are displayed.

                         PORT A SETTINGS
                         TRANSMIT BAUD RATE   9600
                         RECEIVE BAUD RATE   RCV=XMIT
                         DATA/STOP/PARITY BITS   8/1/NONE
                         RECEIVE HANDSHAKE   NONE
                         TRANSMIT HANDSHAKE   NONE
                         TRANSMIT LIMIT   NONE
                         BREAK   250 MS
                         INTERFACE   RS-232C
                         MODEM CONTROL   ASCII
                         DISCONNECT DELAY   OFF

26.   Press SHIFT UP-ARROW to return to the PORT submenu.

Step	Description

27.   Using the cursor keys and ENTER key, select SESSION RESOURCES.

28.   Verify that the functions below are displayed.

	SESSION RESOURCES		
	PRTA	PRTB	BUF1	BUF2
SESSION 1	HOST	AxPr	ACTV	
SESSION 2				ACTV

29.   Press SHIFT UP-ARROW to return to the PORT submenu.

30.   Using the cursor keys, move right to the KEYBOARD submenu.

31.   Verify that the functions below are displayed.

KEY AUTOREPEAT	OFF
KEYCLICK	MEDIUM
KEYBOARD LANGUAGE	US
NATIONAL MODE	OFF
CHARACTER SET	MULTNATL
CORNER KEY	OFF
KEY DEFINITIONS LOCK	OFF
KEY FUNCTIONS	
KEY MODES	
USER-DEFINED KEYS	

32.   Using the cursor keys and ENTER key, select and toggle each field that does not contain the correct information.

33.   Using the cursor keys, move right to the EXIT submenu.

34.   Verify that the functions below are displayed.

        EXIT SETUP
        EXIT SETUP AND CANCEL CHANGES
        EXIT SETUP AND SAVE
        RESTORE LAST SAVED
        DEFAULT ALL
        DEFAULT USER-DEFINED KEYS

35.   Using the cursor keys and ENTER key, select EXIT SETUP AND SAVE. An ARE YOU SURE?(Y/N)Y verification message appears. Select ENTER. System exits the setup procedure.